This is an Accepted Manuscript of an article published by Sage Journals in Tourism Economics on 2016, available at: https://doi.org/10.5367/te.2015.0459

Contingent valuation and motivation analysis of tourist routes: Application to the cultural heritage of Valdivia (Chile)

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Abstract

The purpose of this research is to determine the economic value assigned to the historical heritage of Valdivia (Chile) by tourists visiting the city. For this, the contingent valuation method is used, proposing a scenario of guided tours suitable to attempt to evaluate physically dispersed urban heritage which is also difficult to define as a tourism product, given its diversity. A double-bounded dichotomous choice format is employed to formulate the valuation question, and willingness to pay (WTP) is estimated using parametric techniques. The study is complemented by segmentation analysis for the main reasons why tourists visit the city of Valdivia, applying the contingency tables method. The results suggest that there is no statistically significant difference in the WTP for the three historical and cultural routes offered and show a higher WTP for foreign tourists compared with domestic tourists as well as for those with higher incomes. Moreover, segmentation analysis shows that the level of education and origin of the tourists interviewed are significant variables in characterizing the reason for their visit.

Keywords

contingent valuation, cultural tourism segmentation, historical heritage valuation, tourist routes

Introduction

Historical heritage is an important part of the cultural heritage of a society and can be understood as:

> *a collection of tangible objects related to the cultural development of a society that are inherited from past generations and are valued by contemporaries not only for their aesthetic values or for their usefulness, but also as an expression of the cultural development of a society. (Koboldt, 1997: 53)*

The assets that constitute this heritage are generally public or quasi-public goods, which causes difficulties in their management, sometimes reflected in a deterioration and underestimation of the resources needed for their protection, conservation and restoration.

According to Zuleta and Jaramillo (2003), investing in the preservation of historical heritage could bring benefits linked to attracting tourism, facilitating the rise of businesses that contribute to creating jobs and to revitalizing physical locations, as well as benefits associated with education and the creation of a sense of identity and pride in a nation, region or town, thereby positively impacting the development of social capital.

Concern for cultural historical heritage in Chile is relatively recent. The National Council of Culture and Arts,[1] the government branch in charge of implementing public policy for cultural development in Chile,

established the issue of historical heritage as a priority in its policy document 'Definiciones de Pol´ıtica Cultural 2005–2010'.[2] In this document, the council reaffirms that the government plays a key role in preserving and disseminating the country's cultural heritage as well as in fostering the conditions and incentives that will spur society to become aware of the value of this heritage.

The importance of these issues has also been discussed from a different perspective, by the Department of Regional Development, which has observed that the concern for the culture and identity of regions is also considered part of its mission for developing Chile. It also states that it is concerned with the restoration and conservation of historical heritage along with the creation of an operations and business model which must be available to the public. Historical heritage must be enjoyed by everyone, be accessible to tourism routes and be part of tourist, economic and cultural development. It is therefore interesting to determine the economic importance of the existing historical heritage in Chile and how it might contribute to the country's development.

Firstly, the important collection of historical heritage elements in the community of Valdivia offers enormous possibilities for developing tourism based not only on the recognized natural attractions of the area, as it is now, but also considering the recognition of its extremely rich cultural heritage. This heritage includes some Spanish forts from the Colonial period, part of the architectural heritage of German migration as well as national monuments and museums. Secondly, although the ensemble shares a series of common traits, these are spread around the city. In other words, there is no defined historical centre as may be found in many European cities. Conserving and valorizing this heritage offers the city enormous possibilities in terms of the economy and tourism. For this reason, in order to manage these assets efficiently and successfully promote Valdivia for tourism, it is vital to understand the preferences of those visiting these heritage sites.

The goals of this research are: (1) to describe the tourists who visit Valdivia, analyzing their motivations and segmenting tourist demand using the contingency tables method; and (2) to estimate tourists' willingness to pay (WTP) to preserve the city's heritage, using the contingent valuation method (CVM).

The article is structured as follows: The first section reviews the methodological approach used in the work. The next section describes the case study and formulation thereof. The following section presents the main results to emerge from the research with regard to describing tourist profile and estimating the economic value of cultural heritage in Valdivia. Finally, the last section sums up the main conclusions to emerge from the research.

Methodology

Descriptive and segmentation analysis

Our study commences with a brief descriptive analysis of the tourists, followed by segmentation thereof in line with the main motives for their visit to Valdivia. Said methods are used to classify individuals in the analysis population visa-`-vis their consumption preferences. Segmentation, as a statistical analysis method, is a multivariate technique which seeks to describe one variable through others. In our research, the

question concerning visit motive is multicriteria;[3] that is to say, interviewees may choose as many reasons as they wish. What is obtained is therefore a characterization of a dichotomy variable to identify the absence (0) or the presence (1) of an answer for each motive. This does not allow the use of conventional multivariate statistical techniques such as factorial analysis and cluster analysis, since correlation among variables, besides being low among the different motives, lacks any minimal sense. In these cases, segmentation was performed through the method of contingency tables x^2.[4]

Estimating WTP

In this study, we applied the CVM, which has become the main tool for economic valuation of non-market goods given the restrictions evident in other market agent behaviour-based techniques, also known as the revealed preferences methods. The goal of contingent valuation is to posit a hypothetical market in which interviewees may state their maximum WTP for a variation in the quantity or quality of goods through a survey. Nevertheless, the very nature of the method and of the goods to which it is applied has led to the appearance of certain biases, some linked to individual behaviour (strategic bias, free rider behaviour) and others which emerge as a result of how the method is applied (embedding, yea-saying, interviewer bias, anchoring bias, etc.).[5] After much debate, this approach gained acceptance, given its flexibility for reflecting the particularities of the goods under consideration (Báez et al., 2009) and its ability to provide an estimation of non-use value (Carson et al., 2001).[6]

Case study and fieldwork

The city of Valdivia was founded by the Spanish in 1552. It was later invaded by Dutch corsairs and in the second half of the 19th century welcomed a large number of German settlers. All of these groups have left their cultural mark on the city, mainly in the area where the rivers Calle Calle, Valdivia, Caucau and Cruces converge, which has had an impact on the identity of the river. Their historical heritage, reflected in the Spanish forts, as well as the museums and architecture which are remnants of German colonization, merge with city parks, a floating market and a colony of sea lions in the rivers' waters. As well as being a university city, it is also home to the famous Valdivia International Film Festival, numerous fairs and traditional beer. In addition to the initiatives undertaken by national and regional governments, Valdivia was nominated for Cultural Capital of America for 2016 and was formally chosen by the International Bureau of Cultural Capitals in 2014.

In order to accomplish the goals of the research, a survey was designed aimed at tourists in order to gather the required information. The questionnaire was divided into three sections of questions: the first part addressed the reasons for the visit and cultural consumption activities; the second part gathered information concerning the valuation of historical heritage; and the third part collected the tourists' socio-demographic data. Data regarding the tourists' place of origin, age, gender, relationship status, education, income, job situation, time of visit, reasons for visit, mean daily expenses and other data related to the preferences and valuation of historical heritage were collected.

Information was gathered from face-to-face interviews. The size of the sample for the questionnaire was established in terms of the 95% confidence level, with $p = 0.5$, and a 3% error. Considering the flow of tourism in recent years and applying the respective correction factor, a sample size of 1031 valid interviews was determined. Visitors were classified as national and international tourists, over 18 years old, who visited the community of Valdivia during the summer of 2009.

Given that the heritage in question is open and mainly comprises elements in which the number of visitors cannot be controlled and which is dispersed over the whole of the city, in the present work, we posited a hypothetical scenario establishing the creation of three guided tour routes to visit three different combinations of Valdivia's heritage.[7] Aware that the revenue derived from exploiting these routes would be devoted to preserving and valorizing cultural heritage, interviewees were asked for their maximum WTP to visit their preferred route of the three.[8]

Each route offered different combinations of attractions and possibilities to visit architectural heritage, national monuments and museums. The routes are associated with tours of different durations and with different possibilities of experiencing the natural beauty of the area, in addition to the historical heritage. To provide interviewees with an adequate description of what they were being asked to evaluate, maps and photos were used to support the description of the hypothetical market. The main characteristics of the routes are shown in Table 1 and Figure 1.

Before the valuation question, tourists were asked whether, if they had time, they would be interested in taking one of three tour routes to visit the historical heritage of the community of Valdivia. They were also informed as to how long it would take and the distance to be travelled (see Figure 1). Afterwards, individuals who stated they were willing to participate in the market were shown the routes in detail (see Figure 2) and asked to rank them in order of preference.

Table 1 around here

Figure 1 around here

Figure 2 around here

Once the preferred route had been chosen, interviewees were asked the valuation question, with the purchase of a ticket being used as the vehicle of payment in this contingent market. This ticket gave the individual the right to the services of a bilingual guide and transport but not entrance to museums. Tourists were told that part of the funds collected with this ticket would be used for the conservation, maintenance and restoration of the historical heritage site visited.

The valuation question was posed using the double-bounded dichotomous choice format and was based on six different initial values (as the value of the ticket), which appeared randomly in the questionnaires, in order to avoid anchoring bias on any single value. Once the initial value is given,[9] depending on an affirmative or negative answer, the second question is formulated such that if interviewees answered the

initial offer affirmatively, they were asked about a higher price, and if the answer was negative, a lower price was offered. Table 2 shows the different prices offered to tourists.

Table 2 around here

In order to obtain the WTP from the dichotomous answers given by individuals, the traditional Hanemman (1984) and Bishop and Heberlein (1979) specifications were used for the variation in the indirect utility function. These specifications use the linear and semi-logarithmic forms in the price, respectively, where in the linear case $\Delta V = \alpha - \beta(B_j)$, and $\Delta V = \alpha - \beta \ln(B_j)$ for the semi-logarithmic specification. Parameters of interest were estimated by maximum likelihood, using a bivariate probit model for the double-bounded dichotomous choice format.[10]

Results

Descriptive analysis and demand segmentation

The descriptive results of this study (Table 3) allow us to conclude that visitors are essentially Chileans (the majority from the metropolitan area), had visited Valdivia before, indicating that most visitors had some degree of knowledge of the region and a certain motivation to visit it again. They believe that the community of Valdivia has buildings of historical value, with forts being the most recognizable type of building. Visitors stayed in the community 1–3 days, paying for their accommodation. Regarding their socio-demographic characteristics, the mean age is 38 years old, are in possession of higher education qualifications (with or without degree), travel alone or as a couple and their level of income varies between 400,000 pesos (503.14€) and 1 million pesos (1257.86€). Analyzing their cultural consumption (visits to museums, historic sites, etc.), those interviewed pointed to a medium or high level of consumption (three or more visits) and declared that they had visited the community fundamentally for its historical heritage. The preferences by the three circuits offered were 'Niebla' circuit the first preference, followed by 'Collico' and 'General Lagos'.

Table 3 around here

In order to segment tourist demand, the present research considered that the variable of greatest interest was the motivation to make a choice when visiting a given place, since it is considered a tourists' main incentive when travelling.[11]

To determine which reasons had encouraged them to visit the commune, visitors were asked to choose among a group of alternatives for whether the purpose of their visit was connected with: visiting the historical heritage; visiting the natural heritage; visiting family or friends; work; a special event to be held in the city; or any other reason. Interviewees were given the chance to indicate more than one reason if appropriate. Most visitors indicated they were visiting the commune for its natural heritage and/or its historical heritage; visiting family and friends was also a reason cited by many. Table 4 shows the frequency of the various reasons given for the visit.

Table 4 around here

To apply segmentation techniques, the variables origin, education and first visit were used and classified as shown in Table 5.

Table 5 around here

If the travel motive was to visit historical heritage, the method of contingency tables x^2 identifies foreign visitors as those having a university education (full details of the procedure may be consulted in the Online Appendix). When visits were motivated by natural heritage, segmentation characteristics were visiting Valdivia for the first time, being foreign and a university education. Finally, when the visit motive was visiting family and friends, tourists were characterized by not first visit and lack of university education (see Table 6).

Table 6 around here

Determining maximum WTP

Interviewees were asked for their maximum WTP, starting from different initial price offers ranging from 2000 to 15,000 pesos (see Table 2). Table 7 summarizes the percentage results of the answers given for the different prices offered.

It is possible to observe how the percentage of affirmative answers decreases and how that of the negative answers increases as the initial price offered increases. Only 6.4% of those interviewed in the highest price range were willing to pay a price of 25,000 pesos for the tour. In contrast, in the lowest price range, the price of 3500 was accepted by 72.2% of individuals.

Table 7 around here

To determine tourists' WTP, those who explicitly stated that they did not wish to participate in the proposed hypothetical market were not taken into account, along those who had incomplete data. After eliminating all of these, a total of 896 interviews were used in this research.

The valuation question format used was the double-bounded dichotomous choice format. In order to determine WTP, the bivariate probit model was initially tested, enabling the answers given to both the first and second prices offered to be evaluated. In order for this model to prove useful, the correlation between both questions ($\rho(1,2)$) must be statistically significant (Table 8).

Table 8 around here

Analyzing the results, we observe that the variables which are clearly significant for the answers to both questions from the double-bounded dichotomous choice format are starting prices, origin and tourists' stated income. When focusing on the coefficient signs, we see that if the quantities offered are increased, the probability of them being accepted by individuals decreases. It can also be seen how WTP is higher for foreign visitors than for locals and how it rises as incomes increase. Contrastingly, certain variables are only significant in one of the two answers. This occurs with accommodation and number of accompanying persons in the first question, and reasons for the visit and age in the second question. The coefficient signs

of the probit model indicate that a lower WTP is shown by those who do not pay for accommodation, those travelling with a higher number of companions and those not interested in visiting the historical heritage, whereas age is a factor that increases WTP. In other words, the older the visitor, the higher the WTP.

Using this model to determine WTP, under the assumption that the indirect utility function of the individual is linear, the mean and median coincide at 11,443 pesos.[12] Estimating a confidence interval of 95% using Kinsky and Robb method (Jeanty et al., 2007), in the case of the answers to the first equation, the interval obtained ranges between 10,802 and 12,202 pesos, and for the second equation, the mean is 10,774 and its range is between 9813 and 13,598 pesos (see Table 9). Finally, as indicated before, the hypothetical market offered tourists the chance to take three tour routes,[13] ranked according to the preferences of those willing to participate. The results of the ranking carried out by the interviewees showed that the Niebla sector was ranked first by the majority of tourists (49.3%), followed by the Collico sector (33.4%), with the General Lagos sector having the least general preference (17.3%).

Table 9 around here

Contrasting the characteristics of the tour routes and the answers given by interviewees, it can be assumed that in general, architectural heritage is not the main interest for most tourists. Being able to enjoy the nature has a greater influence on individuals' rankings. This is borne out by the fact that most of those interviewed (75.9%) stated that one of their reasons for visiting the community was to experience its natural heritage.

To determine whether the tour routes affect WTP in any way, segmentation was carried out taking each route separately (see Table 10).

Table 10 around here

As confidence intervals overlap, we can conclude that WTPs are not significantly different from a statistical perspective. The data obtained show that a greater valuation is obtained for the Niebla route,[14] followed by the Collico route, with the General Lagos route having the lowest results. These results are in agreement with the rankings expressed by individuals.

Conclusions

Cities endowed with a rich historical heritage are becoming increasingly aware of the latter's importance as a factor in economic development, since it generates induced benefits in related sectors. In addition, it provides a driving force for culture as well as other distinctive features that make up an area's identity. Appealing and well-preserved heritage combined with good tourist facilities prove key to generating resources in both senses. The present article offers a segmentation analysis of tourist demand of those visiting the city of Valdivia (Chile) and puts forward a valuation of the city's historical heritage, linking conservation and tourist use. Gaining an insight into the nature and particular features of cultural demand, as well as stated preferences in the contingent valuation exercise, may prove to be an essential tool for managers and politicians alike, since the outcomes may contribute towards a better allocation of available

funding, evaluation of cultural projects and, in sum, drawing up specific cultural policies related to heritage.

On the other hand, estimating the economic value of historical heritage for tourist purposes poses major methodological challenges, one valid alternative for such a purpose still being the CVM, despite the criticism it has received. In this vein, the commune of Valdivia in Chile constitutes an interesting case study because, although it is mainly known for its natural richness, it is also known for its historical heritage. It boasts towers and fortifications dating from the Spanish Conquest Period as well as the architectural attraction of households reflecting the influence of German settlers. However, the geographical dispersion of historically significant buildings makes it difficult to delimit the tourist product being appraised. Devising guided tour routes has proven a viable option for determining the value of a set of cultural elements considered as the main tourist appeal of the city. This methodological approach might be used in other similar situations especially in less developing countries.

Results confirm the importance of explicitly addressing preference heterogeneity among individuals. Regarding WTP, this is higher for foreign compared with local tourists and proportionally increases as their income increases. On the other hand, although some variables only proved significant in one of the equations, we highlight the fact that interviewees travelling in large groups or who do not pay for accommodation or who show no interest in visiting the historical heritage display a lower WTP.

With regards to segmentation analysis, some interesting features emerge which merit discussion. When tourists stated the visit motive to be the historical heritage, the contingency tables method evidenced that these were mainly foreigners with a university education. When the stated motive was natural heritage, results showed that the segment comprises those visiting the commune for the first time, in addition to foreigners with a university education.

The WTP estimations highlight the appeal of the available culture supply in Valdivia and the significant differences among the various groups of tourists and their level of motivation. The findings show that for those in charge of local tourist and cultural policy it might prove interesting to encourage visits from the cluster of tourists who most closely identify with cultural heritage, and who have a high level of education, since it is the latter who tend to stay for longer periods and are likely to exert a greater multiplying effect on tourist spending. The specific findings to emerge concerning the economic valuation of the routes may serve as an indicator for marketing specific tourist packages or provide the basis for potential cost–benefit analysis of tourist and cultural heritage restoration projects (Báez and Herrero, 2012). Finally, the valuation results may also serve as an indication or as an incentive for the involvement of private sponsorship in stimulating an area's tourist and cultural development.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was funded by Fondecyt Project No 11070138 and Dirección Investigación Universidad Austral de Chile.

Notes

1 Created by Law 19.891, which was enacted on 23 August 2003. In Spanish Consejo Nacional de la Cultura y las Artes (CNCA).
2 Ratified in the document 'Política cultural 2011–2016' (CNCA, 2005, 2011).
3 Todd (1999) discusses different methodologies to review motivation in tourism.
4 The main segmentation techniques may be consulted in the books of Aaker et al. (2003) and Grande and Abascal (2009). For practical applications of the method used, see Bedate et al. (2001), Chen (2003), Fong et al. (2014) and Legohérel et al. (2015).
5 All of these biases are described clearly in most handbooks dealing with contingent valuation (see Alberini and Kahn, 2006; Bateman et al., 2002; Carson and Hanemann, 2005; Mitchell and Carson, 1989; Sanz, 2004).
6 Examples of where this method has been applied to the field of culture may be found in Bedate et al. (2012), Chang and Mahadevan (2014), Herrero et al. (2011), Navrud and Ready (2002) and Sanz et al. (2003).
7 Báez et al. (2009) carried out similar research in the city of Valdivia, the main differences being that their guided tour route was on foot and that hypothetical bias was not controlled with a certainty question.
8 Birdir et al. (2013) provide a further example of the application of the CVM in which the WTP for three different goods with similar characteristics is also obtained.
9 Before the interview was conducted, a pilot questionnaire was carried out, asking individuals about their WTP with an open-ended question which was used to determine the price vector that would be used in the final questionnaire. More details are given in Arrow et al.'s (1993) report.
10 More details in Haab and McConnell's (2002) book.
11 See Bedate et al. (2001) and Sanz and Herrero (2006) for application.
12 In determinations that assume an indirect utility function with a log-linear plot, data obtained from the second equation are even more imprecise.
13 See Table 1 for details of tour routes.
14 The tour route that includes stops by museums, the General Lagos area, the Kunstman brewery and the Niebla fort.

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Tables

Table 1. General description of the routes offered to tourists.

Routes	Niebla section route	Collico section route	General Lagos section route
Duration – distance	3½ h – 40 km	2½ h – 10 km	2½ h – 20 km
Architectural heritage	Low	High	Medium
National monuments (5 in total)	5 or high	3 or medium	2 or low
Nature	High	Low	Medium

Table 2. Price vector in pesos* of the tickets shown to interviewees for the double-bounded dichotomous choice format (euros).

First price offer alternatives	Second price offered if the answer to the first price is YES	Second price offered if the answer to the first price is NO
2000 (2.52)	3500 (4.40)	1000 (1.26)
3500 (4.40)	5000 (6.29)	2000 (2.52)
5000 (6.29)	7000 (8.81)	3500 (4.40)
7000 (8.81)	10,000 (12.58)	5000 (6.29)
10,000 (12.58)	15,000 (18.87)	7000 (8.81)
15,000 (18.87)	25,000 (31.45)	10,000 (12.58)

*Reference to the euro exchange rate during the period studied, which was 795 pesos.

Table 3. Summary of explanatory variables used in the study.

Variable	Variable categories	Meaning	%
Place of origin	1	National	88.8
	0	International	11.2
First visit to the community	1	Yes	43.2
	0	No	56.8
Historical buildings	1	Yes	76.4
	0	No – does not know	23.6
Number of days visiting	0	Less than 1 day	12.3
	1	1–3 days	35.3
	2	4–7 days	37.2
	3	More than 1 week	15.2
Lodging	1	Pay for accommodation	61.2
	0	Do not pay for accommodation	38.8
Gender	0	Female	51.9
	1	Male	48.1
Age (years)	1	Young (between 18 and 25)	23.6
	2	Adult (between 26 and 65)	56.2
	3	Older (66 or above)	20.2
Education	0	No higher education	44.7
	1	Higher education	55.3
Income (pesos)	1	Less than 200,000	6.8
	2	Between 200,000 and 400,000	19.6
	3	Between 400,000 and 600,000	22.0
	4	Between 600,000 and 800,000	19.0
	5	Between 800,000 and 1 million	12.4
	6	Between 1 and 1.5 million	10.9
	7	More than 1.5 million	9.3
Cultural consumption	0	Low (0 to 2 visits)	46.3
	1	Medium or high (3 or more visits)	53.7
Reason for visit	1	Visiting historical heritage	66.1
	0	Other	33.9
Number of persons travelling together	1	1–2	44.2
	2	3–4	34.5
	3	5 or more	21.3
Route chosen as first preference	1	Niebla	49.3
	2	Collico	33.3
	3	General Lagos	17.4

Table 4. Distribution of visitors by purpose of visit.

Reason	*N* (%)	National	Foreign
Visit historical heritage	681 (66.1%)	592	89
Visit natural heritage	782 (75.8%)	676	106
Visit family and friends	261 (25.3%)	246	15
Work	44 (4.3%)	43	1
Special events	25 (2.4%)	25	0
Others	63 (6.1%)	58	5

Table 5. Categorization of variables used in the segmentation.

Origin	Education	First visit
Foreigners	Non-university	Yes
Capital	University	No
Rest of the country		

Table 6. Summary of segmentation analysis.

	Origin			Education		First visit	
Reason for visit	Foreigners	Capital	Rest of the country	University	Non-university	Yes	No
Historical heritage	22.493* (0.0000)			10.004** (0.0016)			
Natural heritage	14.891** (0.0000)			4.032*** (0.0446)		45.418* (0.0000)	
Family and friends					11.013** (0.0041)		85.837* (0.0000)

Note: x^2 statistic value (*p* value).

*First characteristic that discriminates.

**Second characteristic that discriminates.

***Third characteristic that discriminates.

Table 7. Summary of answers to the double-bounded dichotomous choice format (in %) according to price range.

First price	Second price No–Yes	Yes–Yes	Yes–No	No–Yes	No–No
2000	1000–3500	72.2	26.6	1.3	0.0
3500	2000–5000	62.3	32.1	4.4	1.3
5000	3500–7000	38.6	45.8	11.9	3.9
7000	5000–10,000	33.8	33.8	25.4	7.0
10,000	7000–15,000	23.4	29.9	28.6	18.2
15,000	10,000–25,000	6.4	28.2	35.3	30.1

Table 8. Estimation of the bivariate probit model.

Variable	Parameter	Coefficient	*t* statistic
Equation (1)			
Constant	a	2.7071***	6.95
Price 1	b_1	-0.0002***	-14.58
Place of origin	b_2	-0.5217***	-2.70
Income	b_3	0.1053***	3.07
First visit	b_4	-0.0624	-0.56
Reason for visit	b_5	0.0571	0.51
Cultural consumption	b_6	-0.0370	-0.56
Gender	b_7	-0.1528	-1.48
Age	b_8	-0.0875	-1.07
Education	b_9	0.1633	1.34
Accommodation	b_{10}	-0.2350**	-2.01
Number of persons	b_{11}	-0.0970***	-2.93
Equation (2)			
Constant	a	0.5006	1.44
Price 2	b_1	-0.0001***	-5.83
Place of origin	b_2	-0.4054***	-2.47
Income	b_3	0.0988***	3.45
First visit	b_4	-0.0804	-0.84
Reason for visit	b_5	-0.1482*	-1.51
Cultural consumption	b_6	-0.0181	-0.21
Gender	b_7	0.0956	1.07
Age	b_8	0.1894***	2.61
Education	b_9	0.0673	0.64
Accommodation	b_{10}	0.1437	1.47
Number of persons	b_{11}	0.0237	0.83
Log likelihood	-937.5786		
p(1,2)	-0.1971**		
N	896		

*p value ≤ 0.10.

**p value ≤ 0.05.

***p value ≤ 0.01.

Table 9. Mean WTP and confidence interval (euros): estimations per person.

Price	Mean WTP	Lower limit	Upper limit
First	11,443 (14.39)	10,802 (13.59)	12,202 (15.35)
Second	10,774 (13.55)	9813 (12.34)	13,598 (17.10)

Note: WTP: willingness to pay. Confidence level 95%.

Table 10. Determining the mean WTP by tour route.

Model	WTP	Confidence interval*		*N*
		Lower limit	Upper limit	
Niebla	11,871	10,896	13,151	437
Collico	11,153	10,153	12,420	300
General Lagos	10,868	9583	12,661	159

Note: WTP: willingness to pay.

*Confidence interval (95%) determined by Krinsky and Robb method.

Figures

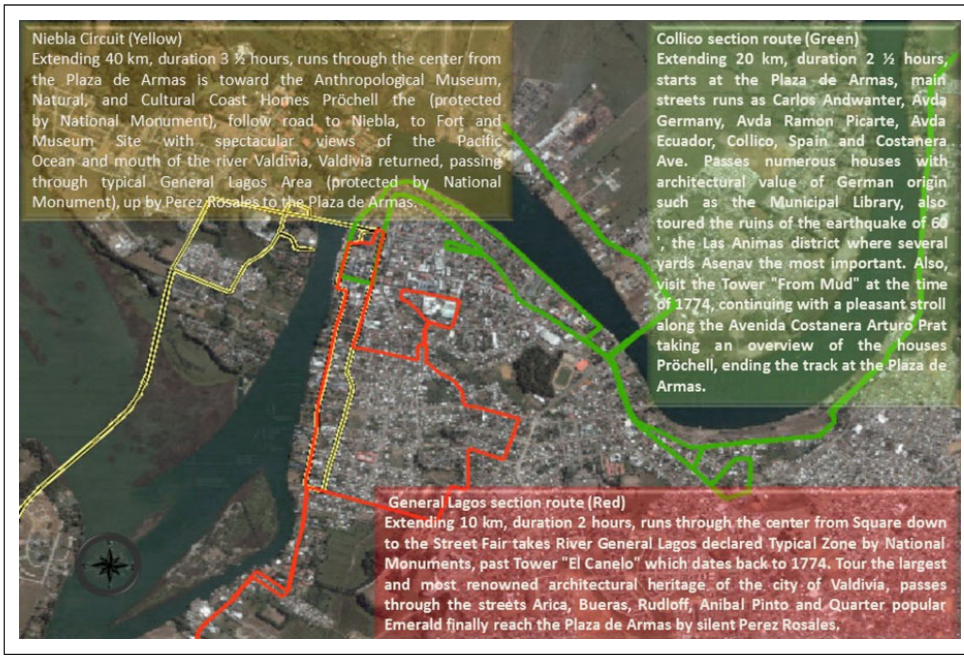

Figure 1. Guided tour routes offered to tourists.

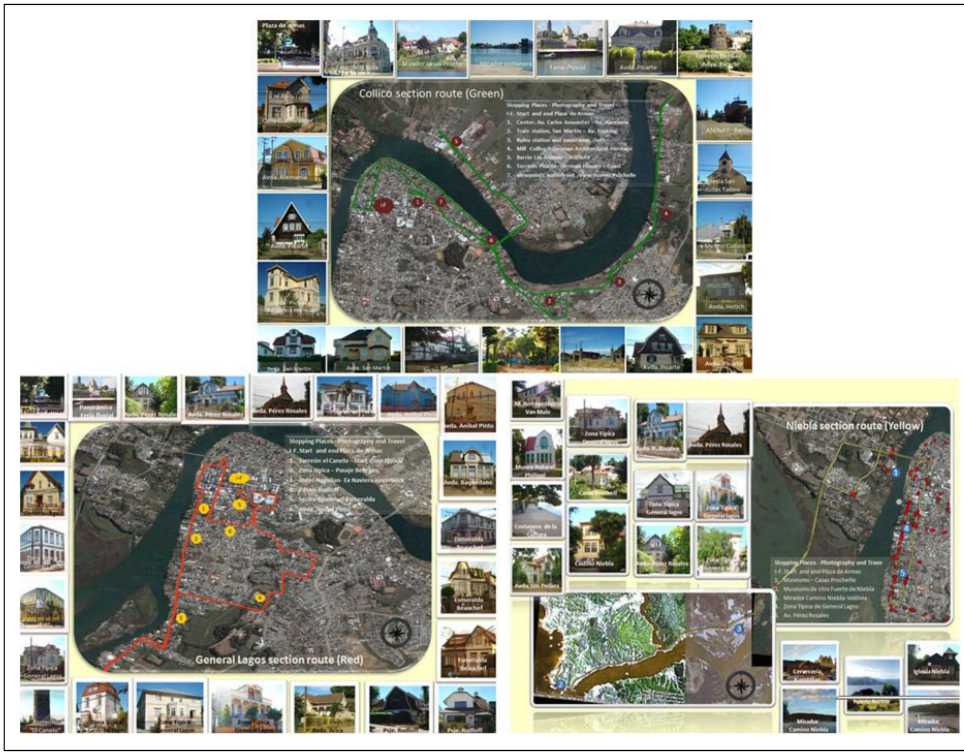

Figure 2. Cultural heritage of Valdivia: proposed tourist route – historical.