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**Abstract:** The paper analyses how the bettering in the living standard affects Chinese households' decision-making process regarding tourism. The first novelty of this study relays on the role that living standard, *proxy* by happiness, Internet use and social connection spending, has on the tourism participation and how it impacts tourism expenditures. We estimate hurdle models and calculate income elasticity with respect to living condition; this is the second main novelty of this study. Empirical results show that living standard is associated with likelihood of participating in tourism and is an essential determinant for tourism consumption behaviour. Some recommendations are finally proposed.

**Keywords**: Tourism expenditures, Chinese households, living standard, Cragg model, income elasticity.

## Introduction

In recent years, the Chinese government has advocated an acceleration in the transformation of the mode of economic development and promoted an upgrading of the industrial structure. In particular, efforts have been made to boost the transition from secondary to tertiary

industry, considered a driver of economic growth. More capital has flowed into the services industry and the tourism sector has also benefited from these policies. Due to the transversal characteristic of tourism, the rapid development of this industry has driven the development of other industries such as transportation, finance, retail and entertainment, increasing employment and stimulating economic development.

In 2015, the national tourism industry registered investment of $14.51 billion (with an increase of 42% compared to 2014), and total investment reached $18.69 billion in 2016 (with a further 29% of growth). In 2016, the tourism industry contributed comprehensively $1.18 trillion, accounting for 11.01% of China's total gross domestic product (GDP). It provided around 28.13 million of jobs. Adding also indirect employment, about 56.49 million more people work in the tourism sector.

The Chinese economic development has had a significant effect on Chinese living standard. Since the reform and opening-up in 1978, on inflation-adjusted basis, resident's per capita disposable income reached $4,033 in 2017, which is 28.5% growth over that in 2015; the per capita consumption expenditure of residents reached $2,845, resulting from an average annual increase of 8.7% since 2015. The development of life quality is also reflected by the change of Chinese consumption structure; the declined share of food expenditure is shown by the Engel's coefficient, which decreased to 29.3% from 63.9% during the same period (National Bureau of Statistics of China, 2019). Besides, the Happiness Index (Helliwell,

Layard & Sachs, 2019) moved from 4.98 in 2013 to 5.25 in 2018, confirming an increase in Chinese people's wellbeing.

China is a highly collectivist culture society, and Chinese people value long-term relationships. Building and maintaining social connections is a natural part of daily life. With the economic development and improvement of living standard, Chinese people are more willing to spend money on maintaining and increasing social relationships (i.e., *guanxi*); in particular, diverse forms of activities in maintaining relationships can be observed, among which going travelling together or visiting friends in the distance become more frequent. Several studies have looked into the role that *guanxi* plays in business and management (e.g. Xin & Pearce, 1996; Luo, 1997; Buttery & Wong, 1999), indicating the importance of recognising and complying to it when dealing with China-based economies. However, limited study looked into how social connection activities influence consumers' behaviours and in particular the participation in the tourism market.

Related to the improvement of people's living standard, the popularity of the internet has also been a driver for the development of Chinese tourism. The internet has revolutionised the way tourists search for information (Arsal, Backman & Baldwin, 2008), it provides an affordable, convenient access to a massive amount of information (Kim, Lehto & Morrison, 2007). It influences the lifestyle of its users, whose number is constantly increasing in China. Thanks also to the development of online travel agencies, it is effortless for Internet users to learn about tourism destinations, products and services. Moreover, the internet makes it

much easier to book tickets, hotels or other services. All these changes largely influence the tourism decision-making processes. Since 2007, the number of Chinese Internet users has grown 13.29% annually, and in 2016 reached 731 million (National Bureau of Statistics of China, 2019). In 2017, digital travel sales reached $111.12 billion, and it is estimated to total $133.90 billion in 2018, a 20.5% increase (eMarketer, 2018).

Due to investments in the tourism industry and the improvement of living standards, Chinese people have increasingly turned their attention to higher-level consumption activities, such as tourism. During the decade from 2007 and 2016, the number of domestic and outbound tourists in China increased from 1.651 billion to 4.562 billion (a 276% increase), with a yearly growth rate of 10.68%. On average, a Chinese resident made more than three trips in 2016, which brought a total revenue of $567.80 million. The annual tourism revenue grew 17.53% during the same period, compared to the average annual GDP growth rate of 13.95%.

The rapid and continuous growth in the number of tourists has attracted the attention of academics. However, studies focusing on Chinese tourism are relatively recent and analyses on the tourism decision-making process of Chinese households are actually limited. Initial studies have provided insight into the tourism development process and helped discern the dynamics by using aggregate data in a macroeconomic perspective (Wang, 2009; Ning, 2000; Li, Pan, Law & Huang, 2017; Yang et al., 2015). Other researchers have analysed Chinese tourists' consumption behaviour with a microeconomic perspective, evidencing the influence of income level (Yu, Huang & Fang, 2013; Zhang, 2014; Lin, Mao & Song, 2015),

socio-demographic characteristics (Zhang, 2014; Lin, Mao & Song, 2015), house price (Zhang & Feng, 2018) and risk preference (Zhang, 2014) on tourism expenditure. Moreover, Fu et al. (2017) started from Confucianism, presented a qualitative analysis of motivations of Chinese households to travel. However, these studies mainly focus on the households that have travelled while ignoring the information of those who do not travel. Furthermore, there is no investigation of the determinants influencing the households' decision to participate or not in tourism, limiting the results' usefulness.

Because China converted to a capitalist market only a few decades ago, and tourism is a flourishing industry, the analysis of the determinants of Chinese tourists' decision-making processes is fundamental from managerial and policy perspectives. Moreover, the living standard has been improving rapidly in the last decades in China thanks to economic take-off and international opening-up. Besides, there is still a large population experiencing a rapid improvement in their living standard. Considering living standard not only is of great significance to the comprehension of Chinese tourists' tourism participation and consumption decisions, but also helps to better understand the past development and future growth of tourism in China. The investigation of these issues enables stakeholders such as the government, product/service providers, destination management organisations etc. to develop more appropriate strategies that better meet tourists' consumption needs and preferences.

At our knowledge, no studies have yet investigated the determinants of both steps of the

Chinese decision-making process (i.e., participation and consumption) and in particular of the role that the improvement of the living condition has on these decisions. With the intent of filling this gap, this study investigates the factors that affect the decision-making processes of Chinese households with respect to tourism participation and consumption. Different sets of variables are considered, including economic, socio-demographic and psychometric variables. In particular, for investigating the role that the living standard has on tourism participation we suggest using some psychometric variables, that are the use of internet, expenditures on social connections and happiness level, which are strongly related to the Chinese economic development. These aspects are useful for marketing practitioners to better understand and identify their target group and plan more suitable marketing strategies using the appropriate channels.

Differently from previous literature on Chinese tourists, we follow Bernini & Cracolici (2015) and suggest a Cragg model to measure the impacts of different factors on Chinese participation in the tourism market, distinguishing the two steps of the decision-making process (i.e., participation and consumption). The Cragg model results to be superior to Tobit model or Heckman model, because it not only performs well in dealing with censored variable (i.e., a large proportion of households with zero tourism expenditure), but also has the advantage of allowing different explanatory variables to be estimated in the two stages. This enables the effects of such determinants to be better understood, and to be used in

guiding the formulation of more suitable policies and strategies for the development of the tourism market.

Data are taken from the China Family Panel Studies (CFPS), which is funded by the 985 Program of Peking University and carried out by the Institute of Social Science Survey of Peking University. This data set includes rich information about a large number of households, consumption behaviours and living standard conditions, thus allowing an investigation into their relevance.

This analysis furthers the literature on Chinese micro tourism demand in numerous ways. First, as far as we know the role of living standard on tourism consumption has never been investigated yet. Second, at our knowledge this is the first study that investigates tourism behaviour of Chinese households from a micro-economic perspective. Third, we analyse tourism participation and consumption by investigating instantaneously the main drivers of both steps of the tourism decision-making process. Because the response variable is censored, a Cragg model (Cragg, 1971) has been proposed. Moreover, we consider different sets of micro determinants of individual preferences for participation in the tourism market. In particular, we focus on the role that living standard has on tourists' decision-making processes, using psychographic variables as happiness, Internet use and social connection spending. Finally, improving previous literature on Chinese tourists, we assess the effect of household income in shaping tourism consumption behaviour by calculating income elasticity.

## Literature background

*Modelling tourism participation and consumption decisions*

A rich literature has focused on tourism participation and consumption from a macro perspective (Craggs & Schofield, 2009); in recent years, empirical analysis at individual level have attracted the academic attention (Brida & Scuderi, 2013).

Several micro-econometric analyses have looked into one of the tourism participation or consumption decision, separately. Concerning the decision of participating in tourism, the main focus is to find out which characteristics influence the decision on spending on tourism or not. Discrete models like Logit model and Probit model are the most used technique in investigating this issue (Alegre & Pou, 2004; Dolnicar, Crouch, Devinney, Huybers, Louviere & Oppewal, 2008; Alegre, Mateo & Pou, 2009; Alegre, Mateo & Pou, 2010; Brida, Bukstein, Garrido, & Tealde, 2012).

Regarding the tourism consumption decision, the research problem moves to analyse which characteristics influence the decision on how much to spend on tourism. As underlined by Brida and Scuderi (2013), the linear regression model is the most commonly used approach, assuming that the amount of tourism expenditure takes positive value and is a function of a set of determinants (Marcussen, 2011; Svensson, Moreno & Martín, 2011; Wang & Davidson, 2010; Pulido-Fernández, Rodríguez-Díaz & Cárdenas-García, 2020).

However, considering only the participation or the consumption decision does not reflect the real tourists' decision-making process; the two decisions are not independent and influenced by different sets of variables. A stream of research has recognised this issue and contained the investigation of both decisions simultaneously (Nicolau & Más, 2005a; Jang, Ham & Hong, 2007; Jang & Ham, 2009; Bernini & Cracolici, 2015, 2016; Bernini, Cracolici & Nijkamp. 2017; Yang, Wu & Lu, 2019), by means of double-huddle models, as the Heckman (Heckman, 1979) or Cragg model (Cragg, 1971). Double hurdle models consist of a Probit model for the first decision of participating in tourism or not, and a model for the second decision on how much to spend on tourism. More importantly, the model for consumption assumes a lognormal or normal truncated distribution, which resolves the problem of inconsistent estimates by using classic linear regression, as tourist expenditure is in most cases not normally distributed but zero-censored (Brida & Scuderi, 2013).

As underlined by Bernini & Cracolici (2015, 2016) and Bernini et al., (2017), the Cragg model is the most promising for a number of reasons. The Cragg model (CM) assumes that an individual has to desire a positive amount of good or service (first hurdle: the participation decision), and second, there must be favourable circumstances for a positive expenditure to occur (second hurdle: the consumption decision). According to Cragg (1971), a non-zero tourism expenditure can thus occur if the individual decides to travel and he/she actually spends money on tourism. The double-hurdle model assumes that zero values can be reported at both decision stages. The zeros reported at the first stage arise from non-travelling

and those in the second stage come from non-consuming due to the respondents' deliberate decisions or random circumstances. Thus, the CM allows for the fact that the potential traveller (i.e. the individuals participating in tourism) may have zero tourism expenditures. Moreover, an interesting feature of the Cragg model (CM) is that different sets of determinants affect the two hurdles. Separating the two decision stages is particularly relevant in modelling tourism consumption, since the decision to travel can be assumed to be mainly related to social factors, while the decision about how much to spend on a holiday depends on individual budget constraints (for a review, see Bernini & Cracolici, 2015; Bernini et al., 2017).

At our knowledge, no studies have yet used this approach in modelling Chinese participation in the tourism market. Thanks to the availability of data on Chinese tourists and not-tourists, we are able to estimate a Cragg model improving this stream of research.

*The determinants of tourism demand*

At a macro level, tourism demand is modelled by using tourist arrivals, overnight stays, or tourism expenditure as dependent variables. A wide range of independent variables have been used, including income or GDP (Archer, 1980; Gray, 1982), the relative price of destination and origin (Jung & Fujii, 1976.; Rosensweig, 1988; White, 1985), the price of alternative destinations (Martin & Witt, 1988).

In China's context, Qu & Lam (1997) identified disposable income per capita and relaxation of

visa requirements as the main determinants of Mainland Chinese tourists' arrivals to Hong Kong. Cai, Hu & Feng (2002) examined the relationship between the annual expenditure of urban domestic travellers and GDP per capita. More recent studies attempted to model and predict tourist volumes with search engine query data (Li et al., 2017; Yang, Pan, Evans & Lv, 2015, 2015).

Compared to macro-models, Alegre & Pou (2004) suggested that micro-models have the advantages of being closer to theoretical economic consumer models; moreover, they avoid the diversity and heterogeneity of consumer behaviour to be cancelled out aggregating information.

According to Wang, Rompf, Severt & Peerapatdit (2006), tourists' consumption behaviour depends on a wide range of features that can be categorised in four groups: economic constraints, socio-demographic, trip-related, and psychographic characteristics. Regarding economic aspects, Crawford, Jackson & Godbey (1991) and Dardis, Derrick, Lehfeld & Wolfe (1981) showed that budget constraints determine the individuals spending capacity. Several studies evidence that income has a positive effect on the decision to participate in the tourism market (Alegre, Mateo & Pou, 2009; Fleischer & Rivlin, 2009; Eugenio-Martin & Campos-Soria, 2011) and its impact is higher for individuals having medium- or high-income levels (Nicolau & Más, 2005a). Therefore, tourism consumption is an income-sensitive good, generally being a luxury good (Bernini & Cracolici, 2015, 2016). Bernini et al. (2017) also evidence that, conditional to the socio-demographic and economic covariates, different tourism expenditure

behaviour can be detected and that differences in tourism participation among households reflect inequalities in living standards.

Regarding the Chinese tourism market, empirical results have shown disposable income as an important determinant in influencing tourists' behaviour (Qu & Lam, 1997; Zhang, 2014; Lin et al., 2015). In particular, Yu, Huang & Fang (2013) found out that income levels and consumption habits are significantly correlated with tourism expenditures of rural households; while, Zhang (2014) detected that income expectations and risk preferences have a significant impact on urban households' decision regarding tourism spending. Zhang & Feng (2018) have also demonstrated that the level of illiquid wealth of households is positively correlated to tourism expenditures.

Previous literature emphasised the importance of household characteristics. The size and composition of the household could influence participation and spending behaviour. Hong, Kim & Lee (1999) found that home ownership is one determinant for whether or not to travel. Households with children are more likely to travel compared to households without children (Yang & Jin, 2014), since travelling is seen an important way to broaden the horizons of children, and parents are willing to pay for it. Because of economic and physical constraints, a greater number of children may negatively influence the tourism participation (Nicolau & Más, 2005a 2005b; Alegre & Pou, 2004). As far as the geographic location of households is concerned, in China Xu, Zhang & Wang (2017) found that urban residences and rural residences have different consumption behaviours when it comes to tourism. Empirical

evidence shows that households in developed cities like Beijing, Shanghai etc. spend significantly more on tourism (Zhang, 2014). People from eastern regions tend to have higher tourism expenditures than those from central or western regions (Lin et al., 2015).

Householders (who play the role of financial manager in a household) often have important influence in tourism consumption decisions. The relevance of the socio-demographic characteristics of the householder was highlighted by recent studies. Age and gender have not a clear effect on the tourism sector (Eugenio-Martin & Campos-Soria, 2011). Life cycle behaviour was verified in empirical analysis but the effects differ among studies. Bernini & Cracolici (2015) suggested that older people are less likely to participate in tourism, but once the decision to travel has been taken, they exhibit higher propensity to spend. Nicolau & Más (2005a) found out that holiday spending increases until the highest point when an individual is 46 years old. Higher levels of education reflect less economic constraints and easier access to information, positively influencing tourism participation and consumption (Alegre & Pou, 2004; Nicolau & Más, 2005a, 2005b). The studies of Alegre, Mateo & Pou (2010), Eugenio-Martin & Campos-Soria (2011) point out that individuals with a stable job are more inclined to travel than unemployed people.

Trip-related characteristics result to be significant in accounting for travel expenditures (Jang, Bai, Hong & O'Leary, 2004). The characteristics empirically tested to be significantly influential include but are not limited to the size of the travel party (Jang, Yu & Pearson, 2003), the number of children/adults in the party (Dardis, Soberon-Ferrer & Patro, 1994; Hsieh,

Lang & O'leary, 1997; Smallwood, 1981; Gieseman & Moulton, 1986), travel companions (Jang, Yu & Pearson, 2003), length of stay (Agarwal & Yochum, 1999; Jang et al., 2004), repeated/first-time visit (Oppermann, 1996), purpose of travel (Jang, Yu & Pearson, 2003) and distance of the destination from the tourist's point of origin (Prideaux, 2000).

As for psychographic characteristics of householders, lifestyle, interests and opinions, attitudes, self-concepts, and perceptions of the travel experience are included (Mayo, 1975; Lehto, O'Leary & Morrison, 2002). The use of psychological variables in the literature is not very frequent; as underlined by Brida & Scuderi (2012), further attempts should be made to introduce psychographic characteristics into tourism participation and consumption decision research.

Following Brida & Scuderi (2012) suggestion, we introduce a set of psychographic variables, made available by the China Family Panel Studies (CFPS), in the analysis, improving this stream of research.

*Living standard and tourism*

In this analysis, we suggest using some psychographic variables for measuring the role that the improvement in the Chinese living condition has on tourism participation. We follow the Sen's capability framework (1987), which states that the living standard is based on economic aspects (i.e., possession of material goods, use of services), on the possibilities for social

participation and on subjective wellbeing (Robeyns, 2005; Breheny, Stephens, Alpass, Stevenson, Carter & Yeung, 2013). Then, as proxy for the non-material aspects of the living standard we use the level of happiness, Internet use and spending on social connections.

In Chinese social connections, "guanxi" (relationships) is the core factor, which cannot be neglected in the study of Chinese consumer behaviour. "Guanxi" means the relationships that one possesses in society. As previously mentioned, an increasing number of Chinese people are willing to spend money on developing and maintaining "guanxi"; including it into daily expenditure represents the importance that a household lays on the social connections. Those households who consider "guanxi" more important, would justify their decisions on travelling together with others or visiting friends in the distance. The motivation of this type of travelling, "guanxi", was proposed by Fu et al. (2017), as one of nine main motivations behind why Chinese tourists travel in the frame of Chinese tourist motivations constructed using Confucianism (which is a prominent cultural influence in China).

Happiness level of consumers is another characteristic that was paid less attention to in previous studies. A few studies have found weak positive association between holiday trips and happiness (Milman, 1998; Neal, 2000; Larson, 2007; Kemp, Burt & Furneaux, 2008; Morgan & Xu, 2009; McCabe & Johnson, 2013). Chen, Lehto, & Cai (2013) found that a boost in happiness immediately follows a vacation. However, other empirical research has shown that the boost of happiness that tourism provides is short-lived (Nawijn, Marchand, Veenhoven & Vingerhoets, 2010; Kirillova & Lehto, 2015). Kirillova & Lehto (2015), even

suggested that many tourists experience lower levels of happiness after returning from a trip than before the trip. How tourism influences levels of happiness remains unclear, but to some extent the level of happiness may be used as a representation of householders' lifestyles that characterise different customers (Pizam, Chon & Mansfeld, 1999). In a recent empirical study by Huang & Wei (2018) focused on Chinese outbound tourists, it was found that unhappy individuals have a stronger intention to travel to a foreign country.

Using (or not using) the internet represents a choice of lifestyle, and the internet inversely influences the opinions of users with massive information. Fotis, Buhalis & Rossides (2012) pointed out in their study that tourists consider online-created travel content more credible and trustworthy than reviews written by professionals or marketing information. Also, as a very important source of information, the internet influences the purchase decision, especially for tourism products that are often used in combination with other products and services, thus increasing the complexity of information (Mills & Law, 2004) and can be considered to be highly risky (Huang, Chou & Lin, 2010). The internet can provide information in the form of text, pictures, sound and videos, costing relatively less in both time and money compared to traditional means (Buhalis, 1998), thus reducing tourists' sense of riskiness and therefore making householders feel more confident in making decisions. Concerning tourism consumption decision, Hung, Shang & Wang (2012) proved that Internet access is a facilitating role in tourism spending.

In this study, for the first time, these variables are used to investigate the households' tourism

behaviour.

## The research strategy

### *The Data*

The empirical analysis was performed on data from the biannual China Family Panel Studies (CFPS), funded by the 985 Program of Peking University and carried out by the Institute of Social Science Survey of Peking University (CFPS, 2019). A total sample of 27,979 households and 70,443 individuals was collected in 2014 and 2016.

The household survey was answered by a family member through interviews, while for individuals there was another survey recording their characteristics. The household survey was answered by the family member most familiar with the household's financial condition. In the analysis, this member is assumed to be the householder, whose characteristics are considered the most relevant to his/her household expenditures.

As for the household, the survey collected data on size, area of residence, ownership of the house, etc. Several information about the socio-demographic characteristics of the householder (i.e., age, education, residence, and so on) are also provided as well as a set of psychographic variables (i.e., happiness, social connection and internet use). With respect to tourism spending, CFPS observes total expenditures of the household travelling for personal

purposes (i.e. holiday, leisure and recreation, visiting friends and relatives, health treatments, religious activities and pilgrimages, etc.) over the past 12 months before the survey. Tourism expenditures include transportation costs, ticket fees, food and accommodation costs, and other costs incurred during trips. Unfortunately, travel destination, number of trips made or the number of household members travelling was not provided.

A detailed description of the data is reported in Appendix A. Of 23,373 valid respondents, 4,421 households had positive expenditures for tourism, therefore 18.91% participated in tourism. Households average expenditure was CNY 5,109.45, about three quarters of them spent less than CNY 5,000. On average, the total expenditure per household was CNY 65,457.48. Householders with higher level of happiness has higher probability of travelling, but we don't observe huge difference in mean expenditures. Comparing householders who use the internet with a computer (one fifth of the population) to the other group, Internet users have much higher tourism participation rate (46.65%) compared to those who don't (11.82%). Tourism participation rate of householders who spend on social connection (20.39%) is almost twice that of those who do not (10.54%).

*The model specification*

To model tourism expenditures, the problem of a large portion of observations reporting zero expenditures should be taken into account. Zero expenditures could be the result for many

reasons: the goods' market price is higher than the household's reserve price, posing the household at a corner solution; the infrequency of purchases; the result of a non-economic decision due to other factors like social or psychological concerns.

Following Bernini & Cracolici (2015, 2016) and Bernini et al. (2017), we suggest modelling the tourism consumption function by using the two-step approach proposed by Cragg (1971) (see Appendix B for the formal presentation of the Cragg model). The Cragg model (CM) allows a flexible approach to model zero expenditures (i.e. "two-tier" or "double-hurdle" model), by assuming that an individual has to wish a positive amount of goods/services (i.e., the participation decision), and there must be positive conditions for an expenditure to occur (i.e., the consumption decision). Splitting the two decision steps is fundamental in modelling tourism consumption, because the decision to having a holiday is mainly related to social factors, while the decision about the amount to spend on a holiday reflects budget constraints.

The participation equation for the Cragg model is thus specified in the form (Bernini & Cracolici, 2015; Bernini et al., 2017):

$$\begin{aligned} DummyT_i^* = {} & v_i^P + \gamma_{pGeographic} Geographic_i + \gamma_{pHousehold} Household_i \\ & + \gamma_{pDemographic} Demographic_i + \gamma_{pPsychographic} Psychographic_i \\ & + \gamma_{p2016} Year_i \end{aligned} \quad (1)$$

In specifying the empirical model, we follow the Wang et al. (2006) taxonomy and model the householders' participation with respect to socio-demographic aspects (i.e., geographic aspects, household features, householder's socio-demographic characteristics.) and

psychographic characteristics (as proxy for living standard).

As far as geographic characteristics are concerned, two sets of dummy variables are included: one to distinguish rural residents from urban residents (Urban) and the other to determine their geographic location in China (DevelopedArea, North, Northeast, East, Central, South, Southwest, Northwest). The household characteristics include if the household owns more than one house (House), the size of the household (LnNFam, measured by taking logarithm of the total number of members of the household) and proportion of household members that work (LnFracNotWorking)[1].

Concerning the socio-demographic characteristics of the householder, we suggest using several variables: gender of householders (Male), level of education (No formal education, Elementary, Junior high school, Senior high school, Junior college, University), status of occupation (NotWorking, Employed, SelfEmployed), marital status (Single, Married, Cohabiting, Divorced, Widowed), tending to trust others (Trusting), doing exercises in daily life (Exercise) and age of the householder (LnAge, LnAge2, LnAge3) as a third-degree polynomial function.

Regarding the psychographic characteristics of the householder, which are used as proxy for living standard, we consider happiness levels of householder (i.e. Happy1 to Happy4 to indicate the increasing levels of happiness) and whether the householder spends on social connections (SocialSpending). To evaluate the effect of the internet on tourism participation,

[1] Specifically, the proportion of household members that do not work is calculated as $LnFracNotWrking = \ln\left(1 + \frac{Number\ of\ household\ member\ not\ working}{Total\ number\ of\ household\ members}\right)$.

we also consider if a householder usually accesses the internet with a computer (InternetUse). It is reasonably assumed that if a householder has higher happiness level, has access to the internet and spend on social connections, he/she enjoys higher living standard.

In addition, a dummy variable (Year) is included to distinguish surveys conducted in 2014 or in 2016.

The tourism consumption equation for the Cragg model is specified by using a double log specification following the general consumption theory, where total household expenditures are represented by a linear and quadratic term to better reflect the shape of the Engel curve.

For the model, the consumption equations correspondent to Eq. 1 are specified as follow:

$$LnTE_i^* = \alpha_t + \beta_{tExp} LnTotExp_i + \beta_{tExp2} LnTotExp_i^2 + \beta_{tAge} LnAge_i + \beta_{tNFam} LnNFam_i + \beta_{t2016} Year_i + \varepsilon_i^t \quad (2)$$

where LnTE is the ln of household tourism expenditures over the past 12 months before the survey. LnTotExp and LnTotExp2 is a quadratic function of household total annual spending (i.e. used as a proxy for income). The age of the householder and size of the household are introduced in the consumption function to control for life cycle effects (LnAge). Year is a dummy variable that equals 1 if the data were collected from the survey in 2016. Table 1 presents detailed descriptive statistics of the aforementioned variables.

Insert Table 1. Variables description

From Eq. (2), the income elasticity can be calculated as follows (see Bernini & Cracolici, 2015; Bernini et al., 2017):

$$elast_i = \beta_{tExp} + 2\beta_{tExp2} LnTotExp_i \quad (3)$$

**Results**

*Cragg model estimates and marginal effects*

The ML estimates of the Cragg model is presented in Table C1 of Appendix C, marginal effects of determinants are presented later in this section.

Specification tests are performed to sustain the Cragg model with respect to both the Tobin (Tobin, 1958) and Heckman approaches. The Adjusted Vuong test (Vuong, 1989) for non-nested models rejects the hypothesis of model equivalence and prefer the CM to the Heckman specification (Adj. Vuong = -2.28, P-value = 0.010). The Adjusted LR test strongly rejects the Tobit specification (Adj. LR = 11946.46, P-value = 0.000).

After estimation, the marginal effects can be calculated by means of equation (B5-B8 of Appendix B). According to Blundell, Pashardes & Weber (1993), the income elasticity is also calculated by using Eq (3). Following Bernini and Cracolici (2016), we calculate tourism elasticity at an individual level for different groups, showing how the tourism consumption decision is affected by different characteristics and in particular by the happiness, and the

access to and use of the internet.

The results of the marginal effects in participation with respect to geographic determinants are in line with previous findings in China's context (Table 2). Households in urban areas are on average 6.91% more likely to travel than rural households, confirming the finding of Xu et al. (2017). Consistent with Zhang (2014), households in more developed area, namely Beijing, Shanghai and Tianjin, are found to have a significantly higher possibility (13.62%) of deciding to participate in tourism. The result is in consonance with the study of Alegre & Pou (2004) and Nicolau & Más (2005a), as living in big city positively affects the probability of travelling. Despite of the reason that Eymann and Ronning (1992) mentioned in their study that residents in big city have the need to escape from urban centres, convenient means of transportation may also be an influencing factor.

Insert Table 2. Participation, Consumption and Unconditional Marginal Effects

As for household characteristics, owning more than one house is associated with a higher level of wealth and stability of households. Thus it is expected to have a positive impact on the propensity to travel. Compared to households with one or less than one house, they are more likely (5.71%) to travel. Similar effect was reported by Alegre & Pou (2004), Alegre, Mateo & Pou (2010) and Bernini & Cracolici (2016), evidencing that households owning house with no mortgage are more likely to participate in tourism. The size of households positively

influences the participation decision while it is negatively related to tourism expenditures. This is in contrast with the result of Alegre & Pou (2004), who evidenced that the number of earners in a household being negatively correlated to the probability of tourism participation. In a typical collectivist society like China where togetherness is given high importance, to strengthen the relationship in households composed of more members, travelling seems to be a good option. When it comes to spending, larger households spend less due to budget constraint. A large proportion of household members who do not work would reduce the possibility of travelling. It agrees with Alegre, Mateo and Pou (2010), confirming that the number of unemployed household member is negatively correlated to travel probability.

Regarding the householder' characteristics, results show that a higher level of education positively influences propensity to travel, which is consistent with Alegre & Pou (2004) Alegre, Mateo & Pou (2009, 2010), Nicolau & Más (2005a, 2005b) and Bernini & Cracolici (2016). Differently from Alegre, Mateo & Pou (2010) and Eugenio-Martin & Campos-Soria (2011), we found that employed householders are less likely to participate in the tourism market; self-employed householders show the lowest likelihood of travelling (5.84% lower than households with non-working householders). A stable job provides stable income, and it encourages tourism participation by reducing economic constraint; however, working introduces time restrict, which is a negative influential factor for tourism participation. Employed and self-employed householders show a greater incentive to dedicate more time to their work and business.

Gender of the householder has a negligible effect. Male householders are 2.2% less likely to travel, similar to the results of Brida, Bukstein, Garrido, & Tealde (2012) and Yang, Wu & Lu (2019). We did not find a significant influence of marital status on tourism participation.

As far as age is concerned, the conditional effect shows that the likelihood of travelling increases with age. The effect on Chinese households' tourism participation contrasts the result of Bernini & Cracolici (2016) in Italy, where the age effect on tourism participation presents an inverted U shape. A possible reason is that in the early stage of the lifecycle, householders tend to allocate more of their income to durable goods (Weagley & Huh, 2004) and they are also under pressure to cover daily and educational expenses for children. Moreover, as evidenced by the highest household savings rate worldwide (37.07% in 2015 reported by OECD, 2019), Chinese have a habit of saving money, so the feeling of not having saved enough money would surely be a negative factor when making tourism participation decisions in the early stages of their life. As householders became older, they are very likely to have a satisfying amount of savings and to have independent children, therefore consumption of recreational and leisure goods is more likely.

As for the consumption decision, an increasing pattern can be observed as householders get older. Consistent with the empirical finding of Bernini & Cracolici (2015), once the decision to travel has been taken, older householders exhibit a higher propensity to spend.This may also be due to Chinese people's saving habits. Younger householders tend to save money for children's education, buying a house, healthcare or other unexpected situations, while older

householders have less pressure to save money and they can spend their savings.

Exercising is positively correlated with the likelihood of participation (7.78%). Working out usually represents the householder's need for a higher quality of life and participating in tourism is also considered as a way to improve wellbeing. It is expected that householders who tend to trust others are more likely to travel, since travelling leads to greater contact with strangers. However, the result is not as significant as expected.

Regarding living standard, estimation results show that higher living standard largely increases the participation in tourism. A householder who spend on social connection, uses the internet and have the highest happiness level is most likely to travel.

Householders who consider themselves as having a happiness level higher than 1 are more likely to participate in tourism, those who rate themselves with the highest happiness level have an 11.35% greater possibility of travelling compared to the group in general.

Using the internet shows a very significant influence on householders' decisions to travel or not. Compared to those who do not use the Internet, Internet users, who are able to access more information about complex tourism products before making decisions, are 13.33% more likely to participate in tourism.

Spending on social connections raises participation propensity by 6.8%. The higher importance a household stress on "guanxi" would lead to higher probability of travelling is proven to be statistically significant. Visiting friends and relatives provides those households with a good opportunity of keeping social relationships alive in addition to enriching travel

experience.

The results also show that tourism became much more popular among Chinese households in 2016 compared to 2014, the propensity of travel participation increasing by a remarkable 34.41%.

*Income elasticity*

The mean income elasticity for households that travelled is 0.907, which means that tourism on average is a normal good for Chinese households who would participate in tourism (Figure 1). The plot of elasticity by total household spending (used as a proxy for income) percentile highlights a negative relationship between the elasticity and the levels of income. For households that have lower annual total income, tourism is a luxury good; when the level of income rises, households are less sensitive to their income change in terms of the decision on how much to spend on tourism, treating tourism as a normal good.

Insert Figure 1. Kernel Density of Income Elasticity and Income Elasticity by Expenditure Percentile

We also calculate the elasticity distribution regarding the proxy variables for living standard to better present their effects on tourism expenditure. The percentage of households with positive social connection spending that see tourism as a normal good is 54%, which is 18%

higher than that of households without social connection spending (36%) (see Table C2 of Appendix C). The highest level of happiness of householders is significant in terms of influencing tourism spending decisions (i.e., for 54% of very happy households tourism is a normal good). Another relatively significant difference can be noticed when considering Internet use, as for the majority of Internet users, tourism is treated as a normal good, 56% of them having income elasticity of tourism demand lower than 1, while the percentage for those who do not have access to the internet with a computer is 44% (Figure 2).

Insert Figure 2. Kernel Density Distribution of Elasticity by Psychographic Variables

**Conclusion and implications**

The main aim of the analysis is to model tourism participation and consumption decision-making processes of Chinese households, with a focus on the role of non-material living standards proxied by psychographic variables as happiness level, Internet use and social connection spending. The rationale is that happiness level is commonly accepted to represent the subjective wellbeing, while the internet provides abundant information about places and lifestyles and stimulates travel desires, and China has witnessed a sharp increase in the number of Internet users. Spending in social connections correlates with the importance that households attribute to "guanxi" (relationships), which is considered an important travel motivation factor for Chinese tourists.

Data from the survey conducted by China Family Panel Studies (CFPS) in 2014 and 2016 are used to investigate the effects of the determinants. As for the modelling strategy, we assume that Chinese households make tourism decisions in two stages: the decision to travel and the decision to consume (i.e., the Cragg model). Marginal effects and income elasticity are calculated to better understand the tourism decision-making process. The investigation of the determinants of Chinese tourists' decision-making processes enables stakeholders to develop appropriate strategies that promote tourism and products which meet tourists' consumption needs and preferences, and to plan suitable marketing communications using appropriate channels.

Results allow to define the profile of Chinese households participating in tourism. They reside in developed urban area, owns more than 1 house with less non-working members in the household. The probability of travelling gets higher when householders' age increases. The householders have higher education levels but are not self-employed; they do exercise in daily life and trust others. With respect to consumption decision, smaller households with older householders would spend more once it is decided to participate in tourism. Then, the effects of householder' characteristics on the two distinct decision-making stages are not necessarily uniform. For instance, a larger household is more likely to decide on travelling, but they tend to spend less during the trip. Higher-income households with householders having higher educational level and higher living standard tend to be less sensitive to income change. They treat tourism as normal good instead of luxury good.

In particular, the improvement in living standard has a significant effect in tourism participation and spending. The psychographic profile of a householder who has the highest likelihood of participating in tourism meets our expectations: he/she is Internet user, spends on social connections and often feels very happy. As with making decisions about tourism expenditures, the characteristics of social connection spending, Internet use and happiness level are also influential. Tourism is treated as a normal good by a high proportion of this type of householder. The use of the Internet is proven to be an essential determinant for tourism participation and consumption behaviour. It is important to stress the importance in leveraging the Internet as a tool to communicate tourism products. As it is found that most Internet users would treat tourism as a normal good but instead as a luxury good for the others, it should be kept in mind to consider and develop online and offline marketing strategies respectively.

Having an understanding of the market is essential for tourism practitioners in creating and designing products, identifying target customers, forming communication strategies etc. The results of current study provide tourism industry with insights on the Chinese tourism market. Based on the results, some implications are suggested.

The product and services to attract tourism participation can be differentiated when targeting households with varied characteristics. The difference in participation decision due to geographic location suggests that travel packages including home pick-up and drop-off services may be attractive for potential tourists in less developed rural area, because their

participation in tourism may be restricted by less convenient transportation.

Conversions rate is a concept more commonly mentioned in e-commerce; a higher rate signifies a higher percentage of potential customers who receive marketing communication is converted into actual consumers. It is important because communicating products or services to potential consumers is costly no matter by which means. Based on our results, marketing practitioner in the tourism industry could identify the market segments who are more likely to become actual tourists.

It is harder and more expensive developing new customers than maintaining existing clients. Higher income, higher educational level and higher living standard householders have higher tourism participation rate and they have lower tourism income elasticity, more of them treat tourism as normal good. These characteristics enable them to access richer information and provide them with training and preparation for some types of recreational activities like tourism (Cai, Hong & Morrison, 1995). They take tourism as part of their lifestyle, with appropriate service, tourists in this segment are likely to become repeated loyal consumers. It is also reasonable to offer luxury packages to older householders instead of younger households.

From the policymakers' perspective, we may optimistically expect that tourism demand will continue growing as a result not only of economic growth but also the development of national education and the ageing of the Chinese population, tourism would become a necessary good for more households as the result of increasing income. Moreover, with the

continuous development of infrastructures in China like the construction of freeway and high-speed rail to, it can be expected that tourism demand may be effectively stimulated, specifically in less developed rural area.

Our results suggest that improvement of living standard promotes tourism participation and consumption, higher living standard should not be limited only to the economic sense, but also other aspects like what we included in our study, higher level of happiness, better access to abundant information and better social relationships. Apart from the ongoing economic growth and development of transportation system, encouraging more diverse lifestyle and improvement of the social environment can also be a good angle for stimulating travel desire, as more outgoing personality and a better sense of trust resulting from a stable and friendly social environment can encourage householders to spend in tourism. From the perspective of tourism product/service providers, word of mouth should be treated with particular attention since the good or bad nature of an experience can be easily spread through "guanxi" (relationships) and influence the decision of potential travellers. It may be a wise move for destinations to create a trustworthy and pleasant image to be more attractive.

This research has provided empirical evidence about the determinants and their effects that influence Chinese households' participation in the tourism market from the demand side. The availability of trip-related variables as well as of information about tourism destinations could potentially increase the model's explanatory power. Moreover, a longer period of observation could improve the understanding of the Chinese decision-making process about

tourism participation and consumption.

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Table 1. Variables description

| Variables | Description | Tourists | | Non-tourists | |
|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD |
| Urban | 1 if household is classified in urban area<br>0 if classified in rural area | 0.757 | - | 0.430 | - |
| DevelopedArea | 1 if household is in Beijing, Tianjin or Shanghai<br>0 otherwise | 0.196 | - | 0.052 | - |
| North | 1 if household resides in North China<br>0 otherwise | 0.080 | - | 0.109 | - |
| Northeast | 1 if household resides in the Northeast<br>0 otherwise | 0.156 | - | 0.151 | - |
| East | 1 if household resides in East China<br>0 otherwise | 0.135 | - | 0.146 | - |
| Central | 1 if household resides in Central China<br>0 otherwise | 0.158 | - | 0.161 | - |
| South | 1 if household resides in South China<br>0 otherwise | 0.098 | - | 0.114 | - |
| Southwest | 1 if household resides in Southwest China<br>0 otherwise | 0.083 | - | 0.122 | - |
| Northwest | 1 if household resides in Northwest China<br>0 otherwise | 0.094 | - | 0.145 | |
| House | 1 if owning more than one house<br>0 otherwise | 0.282 | - | 0.144 | - |
| Male | 1 if head of family is male<br>0 otherwise | 0.483 | - | 0.522 | - |
| NoTittle | 1 if householder has no education<br>0 otherwise | 0.099 | - | 0.317 | - |
| Elementary | 1 if householder has elementary education<br>0 otherwise | 0.136 | - | 0.253 | - |
| JuniorHigh | 1 if householder has junior high school education<br>0 otherwise | 0.283 | - | 0.272 | - |
| SeniorHitgh | 1 if householder has senior high school education<br>0 otherwise | 0.238 | - | 0.115 | - |
| JuniorCollege | 1 if householder has junior college education<br>0 otherwise | 0.131 | - | 0.028 | - |
| University | 1 if householder has a degree<br>0 otherwise | 0.112 | - | 0.015 | - |
| NotWorking | 1 if not working<br>0 otherwise | 0.219 | - | 0.190 | - |
| Employed | 1 if employed<br>0 otherwise | 0.511 | - | 0.259 | - |

Table 1. (Continued)

| Variables | Description | Tourists | | Non-tourists | |
|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD |
| SelfEmployed | 1 if self-employed<br>0 otherwise | 0.270 | - | 0.551 | - |
| Single | 1 if householder is single<br>0 otherwise" | 0.063 | - | 0.045 | - |
| Married | 1 if householder is married<br>0 otherwise | 0.865 | - | 0.844 | - |
| Cohabiting | 1 if householder is cohabiting<br>0 otherwise | 0.005 | - | 0.005 | - |
| Divorced | 1 if householder is divorced<br>0 otherwise | 0.031 | - | 0.023 | - |
| Widowed | 1 if householder is widowed<br>0 otherwise | 0.036 | - | 0.083 | - |
| Exercise | 1 if householder does exercise in daily life<br>0 otherwise | 0.596 | - | 0.344 | - |
| Trusting | 1 if householder thinks most people trustworthy<br>0 otherwise | 0.597 | - | 0.505 | - |
| Happy1 | 1 if householder feels happy less than 1 day in a week<br>0 otherwise | 0.026 | - | 0.085 | - |
| Happy2 | 1 if householder feels happy 1-2 days in a week<br>0 otherwise | 0.123 | - | 0.156 | - |
| Happy3 | 1 if householder feels happy 3-4 days in a week<br>0 otherwise | 0.322 | - | 0.323 | - |
| Happy4 | 1 if householder feels happy 5-7days in a week<br>0 otherwise | 0.529 | - | 0.436 | - |
| InternetUse | 1 if householder uses Internet with computer<br>0 otherwise | 0.502 | - | 0.134 | - |
| SocialSpending | 1 if household spend on social connection<br>0 otherwise | 0.917 | - | 0.835 | - |
| Year | 1 if data from survey conducted in 2016<br>0 if data from survey conducted in 2014 | 0.489 | - | 0.423 | - |
| LnTE | Logarithm of household tourism expenditure | 7.625 | 1.396 | - | - |
| LnTotExp | Logarithm of household total expenditure | 11.348 | 0.740 | 10.475 | 0.900 |
| LnTotExp2 | Square form of logarithm of household total expenditure | 129.333 | 17.126 | 110.533 | 18.682 |

Table 1. (Continued)

| Variables | Description | Tourists | | Non-tourists | |
|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD |
| LnAge | Logarithm of age of householder; age is measured by years from birth | 3.789 | 0.322 | 3.890 | 0.306 |
| LnAge2 | Square form of logarithm of age of householder | 14.457 | 2.408 | 15.222 | 2.314 |
| LnAge3 | Cubic form of logarithm of age of householder | 55.548 | 13.617 | 59.911 | 13.254 |
| LnNFam | Logarithm of number of household members; the size of the household is measured by the total number of its members | 1.169 | 0.486 | 1.207 | 0.541 |
| LnFracNotWorking | Logarithm of proportion of children in household | 0.351 | 0.212 | 0.360 | 0.225 |

Table 2. Unconditional, Conditional and Total Marginal Effects

| Variables | Marginal effects | | | | | |
|---|---|---|---|---|---|---|
| | Unconditional | | Conditional | | Total | |
| Urban | 0.069 | *** | - | | 0.069 | *** |
| DevelopedArea | 0.136 | *** | - | | 0.136 | *** |
| North | -0.029 | ** | - | | -0.029 | ** |
| Northeast | 0.001 | | - | | 0.001 | |
| East | 0.019 | * | - | | 0.019 | * |
| Central | -0.003 | | - | | -0.003 | |
| South | 0.000 | | - | | 0.000 | |
| Southwest | 0.025 | * | - | | 0.025 | * |
| House | 0.057 | *** | - | | 0.057 | *** |
| Male | -0.022 | *** | - | | -0.022 | *** |
| Elementary | 0.040 | *** | - | | 0.040 | *** |
| JuniorHigh | 0.080 | *** | - | | 0.080 | *** |
| SeniorHitgh | 0.124 | *** | - | | 0.124 | *** |
| JuniorCollege | 0.169 | *** | - | | 0.169 | *** |
| BachelorHigher | 0.208 | *** | - | | 0.208 | *** |
| Employed | -0.011 | | - | | -0.011 | |
| SelfEmployed | -0.058 | *** | - | | -0.058 | *** |
| Married | 0.023 | | - | | 0.023 | |
| Cohabit | 0.007 | | - | | 0.007 | |
| Divorced | 0.023 | | - | | 0.023 | |
| Widowed | -0.013 | | - | | -0.013 | |
| Exercise | 0.078 | *** | - | | 0.078 | *** |
| Trusting | 0.010 | * | - | | 0.010 | * |
| Happy2 | 0.077 | *** | - | | 0.077 | *** |
| Happy3 | 0.096 | *** | - | | 0.096 | *** |
| Happy4 | 0.113 | *** | - | | 0.113 | *** |
| InternetUse | 0.133 | *** | - | | 0.133 | *** |
| SocialSpending | 0.068 | *** | - | | 0.068 | *** |
| Year | 0.344 | *** | -0.001 | | 0.343 | *** |
| LnAge | 39.631 | ** | 0.059 | *** | 39.690 | ** |
| LnAge2 | -1.511 | ** | - | | -1.511 | ** |
| LnAge3 | 0.131 | * | - | | 0.131 | * |
| LnNFam | 0.086 | *** | -0.058 | *** | 0.028 | *** |
| LnFracNotWorking | -0.066 | *** | - | | -0.066 | *** |
| LnTotExp | - | | 3.592 | *** | 3.592 | *** |
| LnTotExp2 | - | | -0.115 | *** | -0.115 | *** |

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Figure 1. Kernel Density of Elasticity and Elasticity by Expenditure Percentile

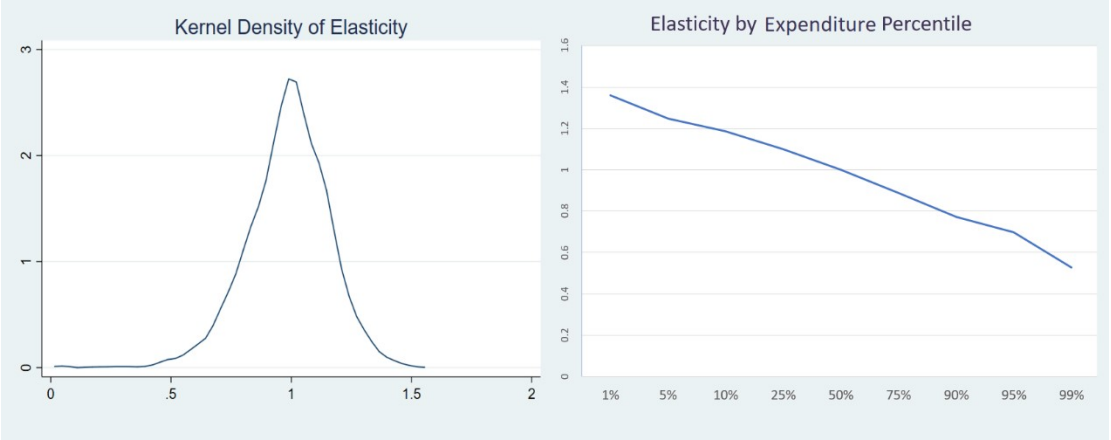

Figure 2. Kernel Density Distribution of Elasticity by Psychographic Variables