

Chapter 2

Propensity to Travel: What Is the Macro-Data Telling Us?

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2.1 Introduction

Propensity to travel, loosely defined as the willingness of a person to be a tourist, is one of the most fundamental concepts in contemporary tourism research. It is deeply rooted into the core of tourism demand, and draws the attention of actors on tourism supply-side. Nonetheless, it is fairly evident that its significance remains undervalued as is demonstrated by the scarcity of the relevant literature. Still, there are good reasons for that scarcity.

First of all, it should be noted that the propensity to travel is a concept which is not easily measurable because its measurement requires high quality data, which can only be collected via in-depth personal interviews. That is, sophisticated primary research is necessary to uncover a manifestation of the concept. Furthermore, by following such a research, there is, naturally, a significant cost associated with it. The high cost of research can be viewed as being one of the main reasons why microeconomic studies about the propensity to travel is not common. Equally, macroeconomic studies about the propensity to travel are even less common.

The reason why macroeconomic studies about the propensity to travel are scant is quite simple; to date, there was no appropriate micro-data which could be used for the compilation of macro-data. In 2011, however, the European Parliament and the European Council have adopted a regulation by which the Member States are obligated to compile annual data about trips taken by its residents (Regulation (EU) 692/2011). Accordingly, data about tourism participation for personal

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purposes of EU inhabitants have been recently published by Eurostat. Thus, for the first time there exist relatively high-quality data available for macro-level analysis of propensity to travel.

Generally, macro-level analysis, i.e. macroscopic examination, is a specific type of analysis with several advantages over the analysis at the micro-level. For instance, the statistical moments of a sample of macro-data represent average values of all surveys in the sample. Therefore, the conclusion bias, due to subjective errors made during individual interviews in the primary data collection, is significantly reduced. In addition, macro-level analysis offers a much broader representation of the examined phenomenon, which can reveal facts that cannot be recognized by an examination of partial sets of micro-data. Finally, macro-data serves as a departing point for any kind of deductive analysis which leads to conclusions about a particular phenomenon that holds, even when its particular characteristics are unknown. In other words, a macro-data approach is much better suited for the development of a general theory about a specific phenomenon.

To the authors' best knowledge, this study is the first to use a macroscopic examination of the socio-demographic determinants of propensity to travel by using data from different countries.

For this purpose the EU28 data was used. Two out of the 28-member states, Denmark and Sweden, were, however, excluded from the analysis due to a lack of appropriate data. In this process, the focus was on three most frequently examined determinants of tourism demand:

1. Age;
2. Educational level; and
3. Income.

Particular attention was paid to the variable 'age', as it emerged that age had a noticeably complex influence on travel propensity, which was also confirmed in a number of available case studies, and is confirmed by this study's analysis. The age, which is traditionally considered as one of the most important determinants of propensity to travel, seems to be changing its role. In this context specifically, it would appear that age has a great potential to be an object of a more vigorous investigation in the future, where its specific role and chameleon-like character in the determination of propensity to travel should be more closely scrutinized.

The rest of this chapter is structured as follows. In the next section a review of the relevant literature will highlight existing studies that have dealt with determinants of travel propensity. This is then followed by a macroscopic overview of tourism and travel in the EU. This study's macroscopic analysis of socio-demographic determinants of travel propensity is then presented in Sect. 2.4, while concluding remarks are presented in Sect. 2.5.

2.2 Literature Review

2.2.1 *The Concept of Propensity to Travel in Tourism Demand Studies*

Studies that have focused on the determinants of tourism demand represent a significant share of the tourism economics literature. In reference to the individual determinants of travel demand, it is widely accepted that demand for tourism is a function of socio-demographic variables which involve gender, education, age, marital status, family configuration, and income (Lawson 1994). Among these determinants, age-related variable(s) in travel and tourism research are, notably, the most frequently used socio-demographic characteristic in demand studies (Brida and Scuderi 2013). Studies in this domain often link the influence of age to the family-life cycle (FLC) theory, according to which an individual's behavior may significantly differ at different stages of one's life (Zimmerman 1982; Oppermann 1995). That theory can serve as a logical argument for similar studies where it is expected that people of different ages might have different travel habits, which arguably leads to conclusions that age-related variables influence travel participation and frequency.

When analyzing demand studies from the travel and tourism literature, a plethora focuses on travel expenditure, while as already noted, studies on travel participation and frequency, or the propensity to travel, are scarce. In this context, Alegre and Pou (2004) argued for the need to make a clear distinction between travel expenditure and travel participation, because decisions about travel expenditure have an inherent two-step nature; in the first step, the potential tourist decides whether to travel or not to travel at all, while it is in the subsequent step, step two, when the traveler decides how much to spend on the travel. Therefore, the second step, expenditure level, is conditional on the first one: the decision to travel or to take the trip. This approach was already applied in earlier studies by Hageman (1981) and, in later studies, by Jang and Ham (2009). What is important to note here is that each of the two steps could be, but must not necessarily be, influenced by the same determinants. Alegre and Pou (2004) further noted that even if the determinants were the same, they still may not exhibit the same influence on the participation and expenditure decisions. In a later study, these authors extend their model of travel expenditure decisions by an important third step (Alegre and Pou 2006). Besides travel participation and travel expenditures, *travel frequency* represents another critical aspect of tourism demand which may possibly underlie the influence of a distinct set of determinants. To test this proposition, Alegre and Pou used their updated model to empirically test Spanish household data. Their results revealed that most socio-demographic variables only have explanatory power regarding the participation decision, while all the variables that affect the frequency of travel decision also explain the participation decision.

2.2.2 Determinants of Propensity to Travel

In an early study using US household data, Hageman (1981) has found that income, family composition and educational attainment, were significant determinants for both travel propensity (probability) and travel expenditure. In their study of travel determinants using Spanish household data, Alegre and Pou (2006) concluded that habit, i.e. previous travel, and disposable income, were the two most relevant factors explaining both the travel participation decision and travel frequency.

The level of education also exhibits a significant positive effect, while age shows an inverted U-shaped relationship with travel propensity. This U-shaped relationship was detected earlier by Alegre and Pou in their 2004 study. Interestingly, the authors stated that, “...as aged households travel less frequently than others, it is common to infer from cross-section data that an aging population will suppose a reduction of the overall future propensity to travel” (Alegre and Pou 2004, p. 130). The authors also confirmed a high explanatory capacity of income and, as expected, its positive effect. After income, the second most important variable regarding explanatory capacity of propensity to travel is the level of education. The effects of this variable were, as expected, positive and the authors suggested that the “...existence of a high degree of segmentation among the population, according to their level of education, acts as a type of cultural barrier in terms of access to tourism consumption (p. 139)”. It can then be argued that with higher levels of education, the sensitivity of travel propensity to variations in income decreases.

Sakai et al. (2000) have conducted a similar study about the propensity to travel overseas among Japanese citizens. The authors used data as reported by the Japan Travel Bureau. The results of their study revealed that propensity to travel was decreasing with rising age, in contrast to the largest travel propensity share among Japanese who were in their 20s. At the same time, the smallest travel propensity share was present among Japanese who were younger than 20. Therefore, this relationship can also be referred to as inverted U-shaped, thereby being positively skewed. However, it has to be noted that travel decisions have probably not been made autonomously by the young travelers themselves, but by their parents. Thus, the authors concluded that propensity to travel was generally declining with rising age. The authors were cautious to highlight that age was not the only determinant of Japanese demand for international travel. Their study also revealed that membership in specific year-of-birth groups was another important determinant, with propensity to travel being significantly higher among younger birth cohorts, although one can argue that as a result of rapidly ageing population, this determinant might shift or slide toward older age groupings.

Collins and Tisdell (2000, 2002) conducted an analysis regarding the Australian outbound travel market to assess segments of different age-groups in the overall number of short-term departures. They used the 1991–1994 travel data from the Australian Bureau of Statistics (ABS). In their study, the authors segmented the number of trips across different age groups for different travel purposes, such as: holiday, visiting friends and relatives, business, conference/convention, work, and

education. Their findings revealed some interesting differences in segments relevant to both age and travel motivation. Here, again, the relationship between age and travel participation emerges to be inverted U-shaped, but with differing peak age-levels across the different travel motives. Specifically, their findings indicate that travel participation rises rapidly at first with age, and then declines as rapidly after peaking between 45 and 54 years of age. However, the authors argued that age-related functions of overseas travel by Australians was likely to change in the longer term. On the one hand, the “echo effect” of past immigration from Europe to Australia is likely to decline, since the number of immigrants to Australia is declining; and the post-World War II immigrants are ageing. On the other hand, the number of immigrants from Asia has grown in the same time, which is already having an influence on visits to Asia by Australians.

Due to the ageing population in most of the developed countries, senior citizens world-over wield quite an economic clout as travel consumers. This, among other disciplines, prompted a rush of studies from travel and tourism that focused on the senior traveler segment. For example, Jang and Ham (2009) conducted a comparison of baby boomers to older seniors using US household data from 2005. Not surprisingly, their results revealed that senior citizens were less likely to travel with increasing age, which may be attributed to mobility challenges which seniors often have to face in advancing years. Similar findings were reported by Fleischer and Pizam (2002) in a survey of elderly Israeli travelers. These authors used data from a larger national surveys that have examined tourism activities of the Israeli population aged 55 and over. Their results showed that leisure travel participation in the boomer segment decreased until the retirement age was achieved. Thereafter, the participation rate rose until another age-level was reached, i.e. 74 years of age. After 74-years of age, travel participation decreased, which seems to indicate a deterioration of health which makes it difficult to travel (Jang and Ham 2009). In the same study, the level of education and income were found to have a significant positive influence on the seniors’ propensity to travel. These results are also consistent with findings from several previous studies by Zimmer et al. (1995), Hong et al. (2005), and Hong et al. (1999).

Several authors who investigated the influence of age on travel behavior, in general, or travel propensity in particular, emphasized the importance of considering generational or cohort effects in efforts to assess the influence of age on future travel participation. In simpler terms, the question is whether or not future generations will travel as much as earlier ones, when assessing the influence of age of future generations’ propensity to travel?

In this context, Zimmerman (1982) noted that changes between successive generations might affect tourism/travel patterns. These may be triggered by periodic effects, referred to by Zimmerman (1982) as being “...*general changes over time due to seasonal events and other specific events like wars and acts of terrorism*”. These effects, which incidentally were also confirmed by Sakai et al. (2000), may be so significant that they mask the true effect of age. This is because age and generational effects do not have to be positively correlated, as eloquently argued by Alegre and Pou (2004), by saying “...*it is thus not obvious*

that an aging population will necessarily imply a reduction of the overall propensity to travel". In agreement with Sakai et al. (2000) and Alegre and Pou (2004) confirmed the existence of a cohort effect. The results of their study have clearly indicated that the older the generation is, the smaller is their probability of pleasure tourism consumption. In another study of Japanese travelers, age and cohort membership were found to be significantly connected to destination activity participation patterns (You and O'Leary 2000). To conclude, these researchers posit that the cohort effect can compensate for the negative effect of a greater proportion of aged people in global demand/supply for tourism. Understandably, to identify such complicated generational or cohort effects, repeated cross-section or panel data are going to be needed (Deaton 1997).

2.3 Macroscopic Overview of Travel and Tourism in European Union

2.3.1 Significance of Tourism in the European Union (EU)

In the EU, tourism is an exceptional economic activity because it influences, touches, and connects every member-state and its people in some way. It contributes significantly to the economic growth and the GDP of EU member-countries, as well as to the socio-economic development of the less developed, rural and peripheral regions of the EU. The European Commission (2013) stated that Travel and Tourism was the third largest economic activity in Europe, immediately after Distribution and Construction. According to data available from the WTTC (World Travel and Tourism Council (2014)), in 2013, the direct contribution from travel and tourism to the EU's GDP was 3.1 % (US\$663.7 billion), while the total contribution, direct and indirect, from tourism to the European GDP was 8.7 % (US\$1874.5 billion). At the same time, tourism is largely attributed to job and employment creation, particularly during summer. WTTC estimated that the direct contribution from travel and tourism to employment was 3.1 % (11.9 million jobs) and the total contribution from travel and tourism to employment, was 8.5 % (37.9 million jobs). It is important to emphasize here, that tourism, compared to other economic activities, employs an above-average number of persons that belong to socially disadvantaged groups, such as young people with little education, disadvantaged women, people with disabilities, and people who have lost their regular jobs. Finally, visitor exports generated 5.3 % of total exports in 2013 (US\$530.1 billion), while travel and tourism related investment amounted to 4.6 % of total investments in 2013 (US\$181.2 billion).

Besides being a key driver of economic growth, travel and tourism also contributes to the sustainable development of EU; to social and regional cohesion of the EU member countries; to protection of natural and cultural heritage; and it has a visible influence in promoting peace, partnership and intercultural dialogue within

the EU member states. These qualities are quite often recognized by the European Commission *vis-à-vis* EU-funded projects that are aimed at furthering tourism development to help: alleviation of poverty; bring together NGOs and governments on issues of tourism development in poorer areas of the EU; environmental protection; affect a more balanced regional and intra-regional development; protection of cultural heritage; and to help bring together disadvantaged and marginalized groups.

Leaving the economic impact of travel and tourism aside for a moment, the other important aspect of the macroscopic analysis of travel and tourism in the EU is the assessment of the physical flows of tourists in EU countries, that is, the number of recorded tourist arrivals and room-nights in commercial accommodations. According to data from the UNWTO (2014), in 2013, European countries recorded 562.8 million tourist arrivals, which accounted for more than one half or 51.8 % of the world's international tourist arrivals. At the same time, the data available from Eurostat (2014b) showed that number of tourist overnights amounted to 2.6 billion in 2013, and EU member-country residents accounted for 55 % of the total number of officially recorded overnights.

Without overstating the obvious, it seems more than reasonable to argue that tourism is an extremely significant economic and social activity in Europe as a whole, which makes perfect sense for exploring the macro-determinants of propensity to travel on a sample from European countries.

2.3.2 *Travel Data of EU Residents*

This study utilizes official annual data available from Eurostat, describing EU28 residents' (15+ years of age) characteristics of tourism demand, including: (1) participation in tourism travel, (2) number of trips, (3) number of overnights and (4) tourism expenditure. Furthermore, the study used only one part of the available data, specifically the data about participation in travel, i.e. residents, who have made at least one overnight stay at a destination other than at the place of their permanent residence. Data covered only trips made for personal purposes and did not include business-related travel. A breakdown by destination of the travel and by the socio-demographic characteristics of the tourists is also provided.

The data was analyzed for socio-demographic characteristics of the population for every country that was included in the sample, and in order to determine the propensity to travel, this study used data based on the total number of trips, whether they were domestic or outbound. However, before going on further, perhaps it is prudent to briefly highlight how Eurostat collects its data.

At Eurostat, data is firstly collected by the national tourism authorities and/or other affiliated authorities of the EU member-countries which is then incorporated into the Eurostat data base once per year. This data is collected on a monthly or quarterly basis via a sample survey and, to a lesser extent, via border survey, and is

compiled in accordance with the methodology established by EU regulations, which provide for high quality and comparability of the collected data.

In order to ensure high quality of data for publication and distribution, Eurostat does not publish data which is based on 20 or less sample observations and data based on 20–49 sample observations is marked as potentially unreliable due to the small number of observations. Thus, only samples larger than 50 observations is officially considered as sufficiently reliable. The possible source of data error is due to memory loss effect and to the reluctance of the respondents to reveal some personally sensitive information, such as total trip expenditure. Additionally, simple variables such as the number of trips have lower sampling errors compared to the more complex variables, i.e. number of trips by destination. When the data is received by Eurostat, it is then aggregated, and in the case of missing data, an algorithm is used to input missing values, when this is possible and appropriate. All statistical concepts and definitions used for data collection are defined and described in the *Methodological manual for tourism statistics* (Eurostat 2014a), which provides guidelines for achieving harmonized and comparable tourism statistics among all EU 28 member countries.

2.4 Socio-demographic Determinants of Propensity to Travel: Which Ones Should Really Matter?

The sample in this study contained macro-data about net propensity to travel, and socio-demographic profiles from the 26 member-countries of the European Union. As noted earlier, two EU members, Denmark and Sweden, were not included in the analysis due to lack of appropriate data. All data were publicly available via the Eurostat website. One of the major advantages of conducting a macro-data analysis is the fact that macro-data is less prone to subjective mistakes made by individuals when surveyed or interviewed.

The focal concept of our analysis was the net propensity to travel. A straightforward definition of the concept can be found in Candela and Figini's (2010, p. 43) textbook, where these authors define the net propensity to travel as the percentage of tourists in the total population of the analyzed region of origin. In our study, it is important to mention that only those trips that were conducted for personal purposes were taken into account. This is important because the focus of this study was on 'true' willingness (of subjects in the sample) to travel, meaning that trips, which have been initiated by any kind of professionally-related needs, or other needs, were not included in this study. In other words, the analysis included only those tourists/travelers who were motivated to travel for pleasure or leisure only.

Since the analyzed sample contained fewer than thirty observations, it was appropriate to consider the sample as being small, meaning that nonparametric statistical analysis techniques had to be used. Therefore, descriptive statistics and Spearman's rank correlation coefficient were used in this study to determine the

Table 2.1 Statistical association between net propensity to travel and its socio-demographic determinants

Socio-demographic determinant	Proxy measure of socio-demographic determinant	Spearman’s rank correlation coefficient	Test of significance of correlation coefficient (<i>p</i> -value)
Age	Percentage of population aged 65 or over	−0.34	0.086
Education	Percentage of population with tertiary education attainment	0.54	0.004
Income	GDP per capita adjusted by purchasing power parity (PPP)	0.72	0.000

degree of statistical association between the main socio-demographic factors: age; education; and income, on the one hand, and net propensity to travel, on the other hand.

The Spearman’s rank coefficient is an appropriate measure when using ordinal data and when normality assumptions are violated. The correlation coefficients with their respective *p*-values are provided in Table 2.1.

The results in Table 2.1 shows that ‘education’ and ‘income’ have a relatively strong and significant degree of statistical association with propensity to travel, with both coefficients having a positive value, which is as was expected. In the case of ‘age’ however, the degree of statistical association is lower and insignificant at the standard 5 % level, suggesting that the effect of age on propensity to travel is something that needs further investigation.

In this context, it was seen as prudent to investigate the net propensity to travel of different age groups, which is presented in the Fig. 2.1. The results show the net propensity to travel of three different age groups: 15–44 years old, 45–64 years old, and 65 or over.

As Fig. 2.1 reveals, the net propensity to travel of the age-group 44–65 is relatively close to the net propensity to travel of the age group 15–44. Also, the net propensities to travel suggest that there is a general tendency for faster decline to travel, only when a person reached 65. In addition, it can also be noticed that the difference in net propensity to travel between the age-groups 15–44 and 45–64 varies across countries, which leads to the following question: What is the degree of statistical association between the difference in net propensity to travel of two younger age groups, and the net propensity to travel of the age group 65+? In other words, do persons aged 65+ travel more in those countries where the net propensities to travel are more balanced between different age groups, and, if so, does this depend on the standard of living? If they do, and if it is more obvious in the higher income countries, could this confirm the diminishing significance of the variable ‘age’? In that case it could be proposed that the variable ‘age’ is gradually losing its influence due to the rising standard of living.

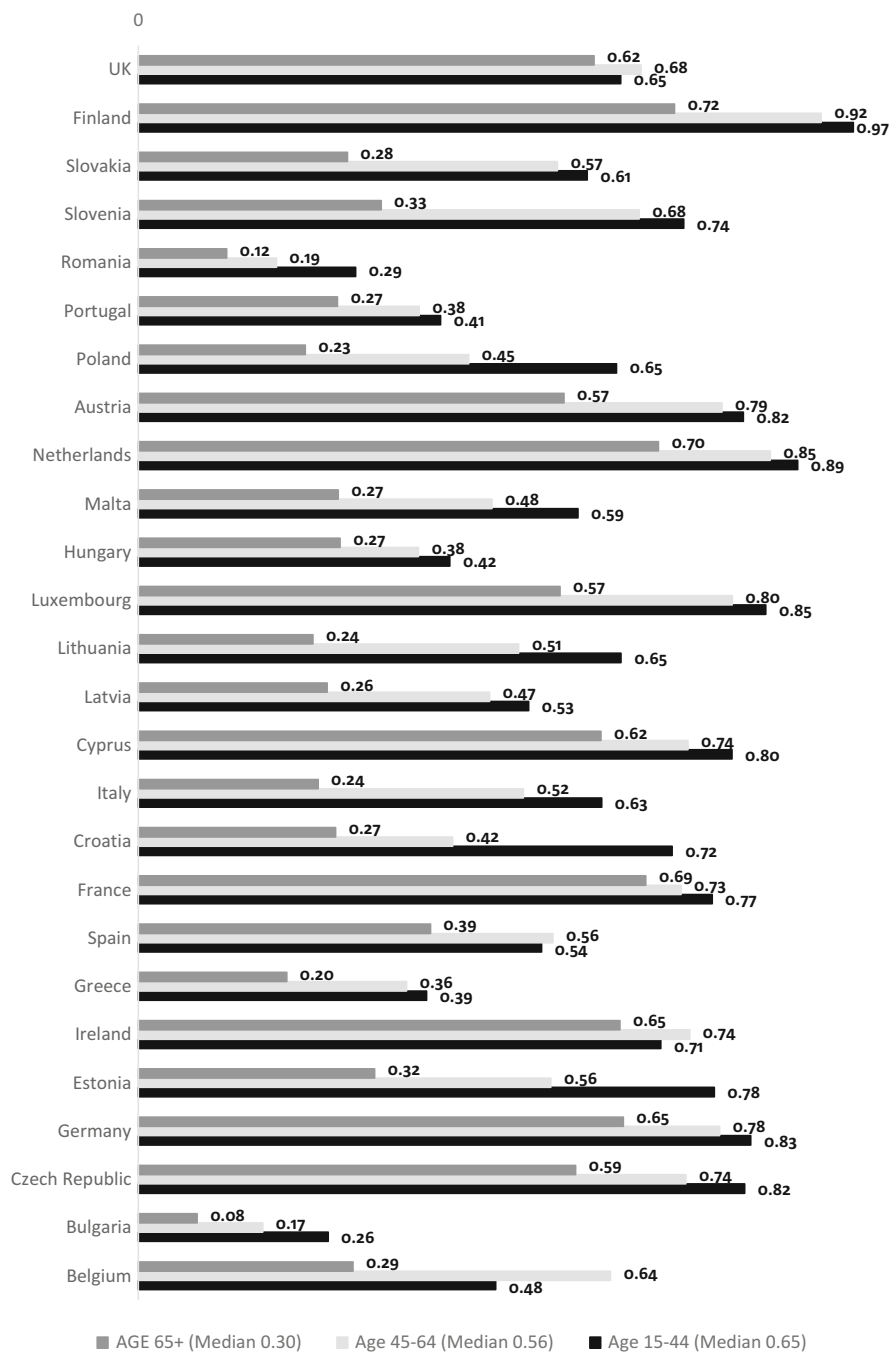


Fig. 2.1 Net propensity to travel of different age groups

Table 2.2 Statistical association between the net propensity to travel of age-group 65+ and two factors that could explain its trend

	Spearman’s rank correlation coefficient	Test of significance of correlation coefficient (<i>p</i> -value)
Differences in net propensity to travel between age group 15–44 and 45–64	–0.42	0.031
GDP per capita adjusted by purchasing power parity (PPP)	0.77	0.000

To seek an answer to these questions, the Spearman’s rank correlation coefficient between age-group 65+ and the differences in net propensities to travel between the two younger age groups was calculated. In addition, we also calculated correlation coefficient between age group 65+ and GDP per capita, adjusted by purchasing power parity (PPP), as shown in Table 2.2.

It can be seen in Table 2.2 that the net propensity to travel of elderly people was higher in countries with greater parity of net propensity to travel between different age groups, in which case, the Spearman’s rank correlation coefficient is negative, moderate and significant. What this means is that travel habits of elderly people depend on the overall travel habits in their particular society. Besides, there is a relatively strong evidence that net propensity to travel of elderly people is growing along with the standard of living. In this case, the Spearman’s rank correlation coefficient is positive, rather high, and statistically significant. This finding strongly supports the thesis that elderly people in societies with a higher standard of living travel more.

2.5 Conclusion

This chapter reports the results of an explorative study analyzing the propensity to travel at the macro-level using macro-data from different EU member-countries about net propensity to travel and socio-demographic profiles.

The central research question guiding the study was: “What can the macro-data tell us about propensity to travel and its determinants?” In particular, this study focused on three of the most frequently examined socio-demographic determinants of propensity to travel: age; education; and income. Due to the small size of the analyzed sample, nonparametric statistical methods were used, primarily Spearman’s rank correlation coefficient significance testing.

The major findings of this study can be summarized as follows:

1. The effects sizes of the different socio-demographic determinants are neither equal nor stable. As confirmed in earlier studies, income exhibits the most powerful effect and should thus be considered the most relevant determinant of propensity to travel. Such a conclusion is in line with the widely

acknowledged notion that the standard of living is the main determinant of travel habits of societies, which is empirically confirmed by many studies about tourism demand (see Crouch 1994; Lim 2006; Song and Li 2008). However, it still remains unclear to which extent the effect of income is stronger than the effects of the other two socio-demographic determinants of propensity to travel.

2. This explorative study provides empirical evidence that adds to the discussion on the relevance of age on pleasure travel habits. Expectancy of life is constantly growing and elderly people are apparently healthier than ever. Combining these facts with the constantly growing standard of living, it is likely that age will become an increasingly less important obstacle to travel in the future.
3. The socio-demographic determinants of propensity to travel should not be held isolated of each other. Likewise, their effects should be considered mutually, as it is likely that their mutual effect differs from the simple sum of individual effects. In addition, some determinants may exhibit significant moderating effects on the relationship between other determinants and propensity to travel. Accordingly, future research studies should focus on the interplay between different determinants of travel propensity.

Perhaps one of the most interesting findings in this macro-data analysis is the diminishing influence of the variable 'age' on propensity to travel. As reported in the literature review, age is a very specific socio-demographic factor with a complex influence on travel propensity. The variable 'age' certainly matters, but the extent and nature of its influence remains rather unclear. Several earlier studies discuss the inverted U-shaped relationship of age and propensity to travel (e.g. Alegre and Pou 2004, 2006). Although the macro-level analysis did not confirm the inverted U-shape, it revealed that ageing is associated with reduction in propensity to travel. In particular, the age group 65+ was characterized by the lowest net propensity to travel. However, further investigations of differences in net propensity to travel of elderly people across countries showed that it also depended on the overall travel habits of societies, and upon the standard of living, where elderly people in countries with higher standard of living had higher net propensity to travel. Furthermore, elderly people also traveled more in countries where the difference in net propensity to travel between the two other age groups was lower. One can then deduct that if travelling is an important habit of middle-aged people as well as of the young people in a society, then it can be expected that elderly people will also have a relatively high net propensity to travel. Hence, it could be argued that travelling for pleasure is becoming a highly desirable way of spending free time. This phenomenon is not only relevant to young people, but also very relevant to middle-aged and elderly people, and a phenomenon which is influenced by a rising standard of living. Finally, it is hardly surprising that income seems to be the most important determinant for net propensity to travel.

As outlined earlier, it would be interesting to analyze differences in the form of relationships—age and propensity to travel—across different countries, as it would be interesting to reveal to what extent the relationship between age and propensity to travel is influenced by the standard of living, or even some other important

determinants of tourism demand. Future studies may focus on this kind of moderating effects in order to uncover the true influence of the age variable on travel propensity, and thus to better understand the behavior of the aging tourists.

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