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SEASONALITY OF EXPENDITURES OF POLISH HOUSEHOLDS ON ORGANIZED TOURISM AND ITS DETERMINANTS

Andrzej Wołoszyn
Poznań Academy of Physical Education, Poland

Romana Głowicka-Wołoszyn
University of Life Sciences in Poznan, Poland

ABSTRACT: The demand for tourism services, including organized tourism, is prone to seasonality understood as quantitative changes repeating regularly in seasonal periods. The main sources of seasonality are natural, as weather changes, or institutional, as the time of vacation breaks. The adverse impact of seasonality on economic activity manifests itself in disproportionate operating costs due to low season underutilization of the existing infrastructure. The paper aimed to characterize the organized tourism expenditures of Polish households in four quarters of 2005 and 2010, both in terms of volume and participation. The changes in quarterly concentration of the demand in the studied years were captioned by the Gini coefficient. Moreover, an attempt was undertaken to evaluate the interaction of quarterly seasonality effect with various demographic, social, and economic determinants of organized tourism demand in Poland. The study showed that in both studied years the largest percentage of Polish households spent on organized tourism in the 2nd and 3rd quarters (around 14% of all households). The average quarterly level of expenditure per person was highest in the 3rd quarter, but the second highest was noted in the 1st quarter. The seasonality index (Gini coefficient) of both participation and expenditure level was slightly lower for 2010 than for 2005. Furthermore, lower seasonal concentration of demand was found for households with higher disposable income, better education or age (above 50 years old) of the household head.
Key words*:* seasonality of tourism demand, effective tourism demand, organized tourism

INTRODUCTION

The demand[1] for tourism services, including organized tourism, is prone to seasonality understood as quantitative changes repeating regu-

[1] Potential demand encompasses all needs existing at a given time that could have been satisfied had it not been for the scarcity of resources. If the potential demand can be satisfied (i.e. with sufficient purchasing power), it becomes the effective demand (Niezgoda, 2012). In this paper we will only examine the effective demand related to organized tourism.

Andrzej Wołoszyn's affiliation - Department of Informatics at the Poznań Academy of Physical Education, Poland. E-mail: woloszyn@awf.poznan.pl. **Romana Głowicka-Wołoszyn's** affiliation Department of Finance and Accounting at the University of Life Sciences in Poznan, Poland. E-mail: roma@up.poznan.pl

larly in seasonal periods with more or less the same timing and magnitude (Baron, 1975). Butler (1994) described seasonality as: "A temporal imbalance in the phenomenon of tourism, which may be expressed in terms of dimensions of such elements as numbers of visitors, expenditure of visitors, traffic on highways and other forms of transportation, employment and admissions to attractions." The main sources of the seasonality are natural (the climate and weather, temperature, insolation, precipitation), institutional (the dates of vacation periods, state and religious holidays), or social (fashion, sporting calendars, and inertia or tradition) (Baron, 1975; Butler, 1994). Moreover, Butler and Mao (1997) distinguish between the sources in the origin and receiving areas, which do not act independently but interact with each other.

The concentration of tourism demand during the high season carries certain social, economic, and environmental threats. First, it results in the temporality of jobs and the off-season lack of employment (Yacoumis, 1980). Second, it affects the economic activity of the entire industry, from hotels, inns, and other lodging to transportation and catering businesses, which translates into disproportionate operating costs due to low season underutilization of the existing infrastructure (Baron, 1975; Demelas, 2009). Finally, it exerts significant and negative pressure on the environment: aggravates the levels of air pollution, depletes the water resources, hastens the devastation of coastal areas, generates increased noise disturbance that threatens habitats of birds and other species (Butler, 1994). All in all, most authors consider seasonality a problem to tackle with, though some note that it might not always be totally negative, especially for the destinations, where the approaching off-season signifies a respite for local residents and environment (Murphy, 1985; Lundtorp et al., 1999).

It is not only the destination area that is influenced by seasonality of tourism. On the origin side the governments and organizers (travel agencies, tour operators, and other travel businesses) struggle to moderate its effects. Fluctuating and unpredictable sales revenues combined with the necessity to incur serious pre-season financial obligations may result in the loss of liquidity and insolvency, especially in the industry so susceptible to non-economic factors such as political revolts, terrorist attacks or volcano eruptions. As early as in the 1970's Baron observed that despite difficulties in overcoming the problem, there are ways to arrest the growing seasonality: extending peak-seasons by developing a tourism product irrelevant to seasonality, promoting a pricing differentiation model, and multiple use schemes (Baron, 1975). Bearing in mind that tourism is an important social and economic activity, that it reflects the level of living of the citizens and gauges the human development of the society (*Turystyka*…, 2011) some decisions to lessen the effects of seasonality

are being undertaken nowadays on the national or regional level, e.g., the establishing of different dates of winter break for different provinces. Some European countries have introduced special programs addressed to senior citizens of EU with the attractive for this group conditions, e.g., "50+". In Poland, too, the regional governments have noticed that attracting the seniors could bring benefits to the local economy. One example is the TOURage – a program designed to stimulate participation of senior citizens in tourism in peripheral regions. As noted by Śniadek (2007): "seniors can be instrumental in levelling the detrimental to the industry phenomenon of seasonality as they prefer to go on vacation off-season. Among all groups of Polish tourists they are the least represented in summer and winter and most in spring and fall". Another way to moderate the effects of seasonality is promotion of the social tourism, which is addressed to a broader spectrum of socio-economic groups and which "has developed from being an economic form of safeguarding the right to leisure for low income groups into a deliberate instrument of long-term stimulation of development of tourism in the [poorer] regions": (Kosmaczewska, 2010). This promotion is typically conducted by the provincial governments in conjunction with local business partners.

Some methods to assuage the effects of seasonality are employed on the business level, by hotels and other lodging owners and include off-season discounts, special weekend packages, and new product offers aimed to attract new consumer groups (Lee, 2008). Travel agencies also have pre-season offers, commonly called First Minute (not to be confused with Last Minute), which are supposed to smooth out the peaks and troughs of the revenue inflow in exchange for slightly lower margins. The use of pre-season offers also helps the organizers gather funds for advances or identify developing sales trends. Moreover, with the realization that high degree of standardization of the mass tourism comes with a price of equally high degree of seasonality, the organizers have been increasingly focusing their attention on more refined products directed to modern tourism consumers, which tend to take place off-season (Demelas, 2009). Still, the negative economic effects of seasonality will never be totally eradicated and some part of the industry will always need the financial help provided by the public authorities, as the relatively low returns on capital, being a consequence of inflexibility of underutilized capital assets, make it difficult to attract investors from the private sector (Mathieson & Wall, 1982).

The article aims to analyze the quarterly variation of the realized demand for the organized tourism as a whole, and for the domestic, outbound, and youth organized tourism in particular. The study has been conducted quantitatively, analyzing in each quarter both frac-

tions of households participating in organized tourism and the levels of their expenditures. The analysis covered 2005 and 2010, which helped to determine what changes, if any, have taken place in the five years after the Polish accession to EU. The changes in quarterly concentration of the demand have been captured using the Gini index. Furthermore, an attempt was undertaken to identify the interactions of selected demographic, social, and economic factors with the quarterly seasonality of demand for organized tourism among the Polish households.

MATERIAL AND METHODS

The calculations were based on raw micro data from the Household Budget Surveys conducted by Polish Central Statistical Office in 2005 and 2010. In 2005 roughly 8,700 households were surveyed in each quarter, which summed up to 34,767, while in 2010 around 9,300 households every quarter added up to 34,412. The survey was representative for the entirety of Polish households.

Every quarter of both years the fraction of households declaring expenditures on organized tourism[2] was calculated together with the average level (in PLN/quarter/capita) of the expenditures. The calculations were adjusted for inflation by sub-indices for organized tourism sub-category published annually by the Central Statistical Office on its webpage, www.stat.gov.pl. Three different forms of organized tourism were taken into account: domestic, outbound, and youth tourism[3]. The changes of quarterly concentration of the participation[4] in and the volume of organized tourism between 2005 and 2010 were captured by the Gini coefficient calculated from the following formula (Panek, 2011):

$$G = \frac{1}{2\bar{y}n^2}\sum_{i=1}^{n}\sum_{j=1}^{n}\left|y_i - y_j\right|$$

[2] The expenditures are recorded as part of "durable goods, real estate, and other rare expenditures quarterly interview" of the Household Budget Survey (Metodologia Badania Budżetów Gospodarstw Domowych, p.25).

[3] The expenditures on organized tourism included the payments for organized excursions, vacations (domestic or outbound), summer or winter camps (Budżety Gospodarstw Domowych w 2005 r., Budżety Gospodarstw Domowych w 2010 r.)

[4] Henceforth, whenever the term "participation" or "participation in tourism" is used, it will mean, unless otherwise stated, the percentage share of all or of a group of Polish households that reported in a given year any incurrence of expenditures on organized tourism, or on a given form thereof.

where n is the number of quarters, i.e. 4, y_i is the fraction of households that declared some organized tourism related expenditures (or the average volume thereof) in a given quarter, and $\bar{y}$ is the average of y_i over the four quarters. The value of the Gini index varies between 0, when the participation (or average volume) is the same in every given quarter, and 1, when the participation is observed only in one quarter. The first situation is indicative of no seasonality effect while the second one is of maximum possible seasonality. Many authors emphasize the suitability of the Gini index as a measure of seasonality of the tourism demand as it shows stability and robustness to outliers (Wanhill, 1980) and being a measure that satisfies the Pigon-Dalton principle, it falls down when a transfer occurs from a quarter of higher participation to a quarter of lower one (Rosselló et al., 2004).

With the attempt to find possible interactions of demographic, social, and economic factors with the seasonality, Gini indices were calculated for the demand variables (participation and average level of expenditures) of the identified classes corresponding to the considered factors. For example, for interactions with the income level the analyzed households were divided into four classes – quartile groups with respect to the household's disposable income per capita – and the Gini indices were calculated for each one.

Changes in the quarterly structure of participation (or of the average volume of expenditures) between 2005 and 2010 were captured using a simple index of similarity of structures (Wysocki & Lira, 2005):

$$\mu = 1 - \frac{\sum_{i=1}^{4} \left| c_{i(2010)} - c_{i(2005)} \right|}{2}$$

where $c_{i(j)}$ is the share of the *i-th* quarter in the total participation (or in the average volume of expenditures) in the *j-th* year. The values of this measure vary between 0 and 1, where 1 is indicative of perfect similarity. In this paper, the values were calculated for each of the considered types of organized tourism, i.e. domestic, outbound, and youth.

RESULTS

Seasonal household participation in organized tourism

The percentage of Polish households that reported any expenditures on organized tourism varied in 2005 between 4.9% in the 1st

quarter and 13.2% in the 2nd quarter. The corresponding percentage in the 4th quarter was almost as low as in the 1st, and in the 3rd quarter was almost as high as in the 2nd: 5.0% and 13.0%, respectively (Fig.1). In 2010 the participation rose, but the rise was not even: in the 1st and 3rd quarters it amounted to 2 pp (percentage points) while in the 2nd and 4th to only 1 pp. In 2010 the households still spent mostly in the quarters of spring and summer, only that year the percentages were 14% and 15% in the 2nd and 3rd quarters, respectively.

The increased interest of Polish consumers in organized tourism may be testified to by the growing number of travel agencies, which between 2005 and 2010 multiplied by 17%. According the data of the Institute of Tourism the number of travel agencies registered in the Central Register of Tourism Organizers and Intermediaries was 3074 in 2010 (*Biura* ..., 2010).

The reasons for the increase can be found mainly in the economic environment of the Polish households: the growing GDP and real wages, steady unemployment rate, and the changing consumption structure. Between 2005 and 2010 the real Gross Domestic Product per capita rose by 25.7% (*Produkt*…, 2012). Many authors (Wołejko, 1998; Dziedzic & Skalska, 2012) point to disposable income per capita as the main determinant of demand in general. The demand for organized tourism services, which are considered non-essential goods, will only be realized from a fund of discretionary expenditure decisions (Urbaniec, 2011), i.e. after all the essential needs have been satisfied. In 2010 the Polish households' real disposable income per capita was 20.4% higher than in 2005 amounting to 23,200 PLN (*Produkt*…, 2012). In the same period the Household Budget Survey conducted by Central Statistical Office showed a drop of 3 pp in the share of expenditures on food and nonalcoholic drinks (to the level of 24.8% in 2010), which is symptomatic of improving financial condition of the households and of growing fund of discretionary spending decisions.

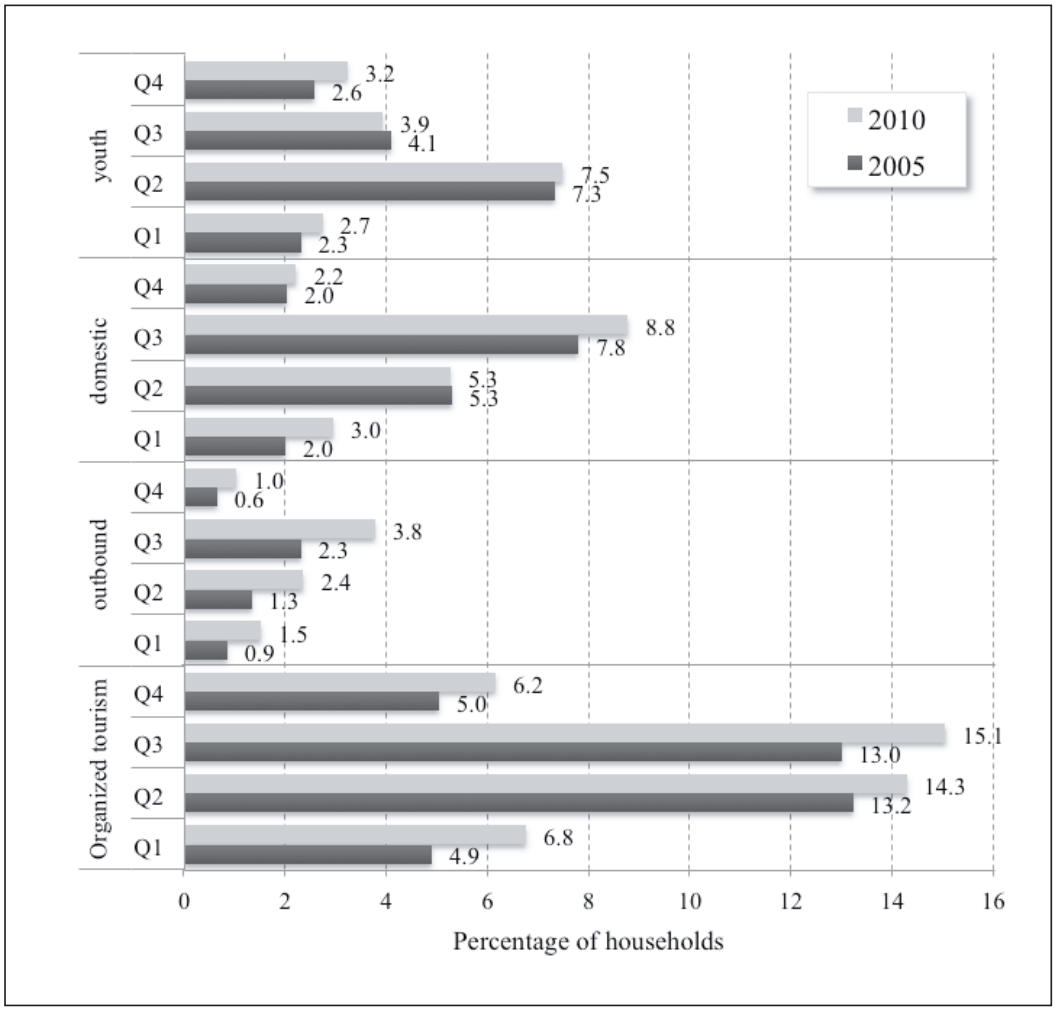

Figure 1: The percentage of households spending on three types of organized tourism in the four quarters of 2005 and 2010

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

The changes between 2005 and 2010 in the effective demand for the three analyzed types of organized tourism showed a substantial increase of interest in the outbound tourism. This may partly be due to the low starting point in 2005: from 0.9% in the 1st quarter to 2.3% in the 3rd quarter. The increase is observed in all four quarters: from only 0.4 pp in the 4th to 1.1 pp in the 2nd and 1.5 pp in the 3rd quarter. In both years the spending on outbound organized tourism was most frequently observed in the 3rd quarter.

The changes in participation of the households in the domestic organized tourism were less pronounced. The increase in the percentage of households that were spending on this type of organized tourism between 2005 and 2010 was only 1 pp in the 1st and 3rd quarters and 0.2 pp in the 4th quarter. In the 2nd quarter there was no change. As was the case of outbound tourism, in both years

the participation in domestic organized tourism concentrated in the 3rd quarter.

The slightest changes between the analyzed years were observed in the incurrence of expenditures on youth organized tourism. There was a small increase in the 2nd, 1st, and 4th quarter of respectively 0.2 pp, 0.4 pp, and 0.6 pp. and a drop in the 3rd quarter of 0.2 pp. This phenomenon may be due to the declining interest in such forms of leisure as scouting, or in summer camps in general. Hence the concentration of this type of expenditures in the 2nd quarter, when typically school excursions are organized in Poland. It may also be that these forms of tourism are being displaced by others, in particular by organized outbound family vacations. The growing affluence of Polish households is observed to find a swift and flexible response on the supply side of the market with a wide selection of new and attractive offers directed at families with children (Głowicka-Wołoszyn et al., 2013).

Using the Gini index to analyze the concentration of quarterly participation of households in organized tourism one can observe reduction in seasonality between 2005 and 2010. Among all three forms of organized tourism in 2010 the smallest concentration characterized the participation in youth tourism, then in outbound tourism, and finally a large one in domestic tourism. The observed falls in seasonality might not be striking, but are noticeable. They can be likened to similar reductions in seasonality of tourist flow found by Callejo (2004) and Halpern (2014) in Spain and Norway, respectively.

Table 1: The Gini index – concentration of quarterly participation in organized tourism

Years	Gini index			
	Organized tourism - together	including:		
		domestic	outbound	youth
2005	0.30	0.40	0.36	0.34
2010	0.27	0.38	0.35	0.29

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

The seasonal structure of all households that have reported any expenditures on organized tourism (together on any of the three forms, and separately) was analyzed with respect to the quarters in which the expenditures were incurred. It was observed that 36.6% of all households that in 2005 had reported expenditures on organized tourism did so in the 2nd quarter, 35.9% in the 3rd quarter, and roughly 14% in the 1st, and in the 4th quarters. In 2010 the corresponding percentages

were 35.6% in the 3rd quarter, 33.8% in the 2nd, 16% in the 1st, and only 14.6% in the 4th quarter. One can observe that the quarterly structure of incurred expenditures on organized tourism did not experience any radical change between 2005 and 2010, which can be confirmed by the calculated values of the index of similarity of structures.

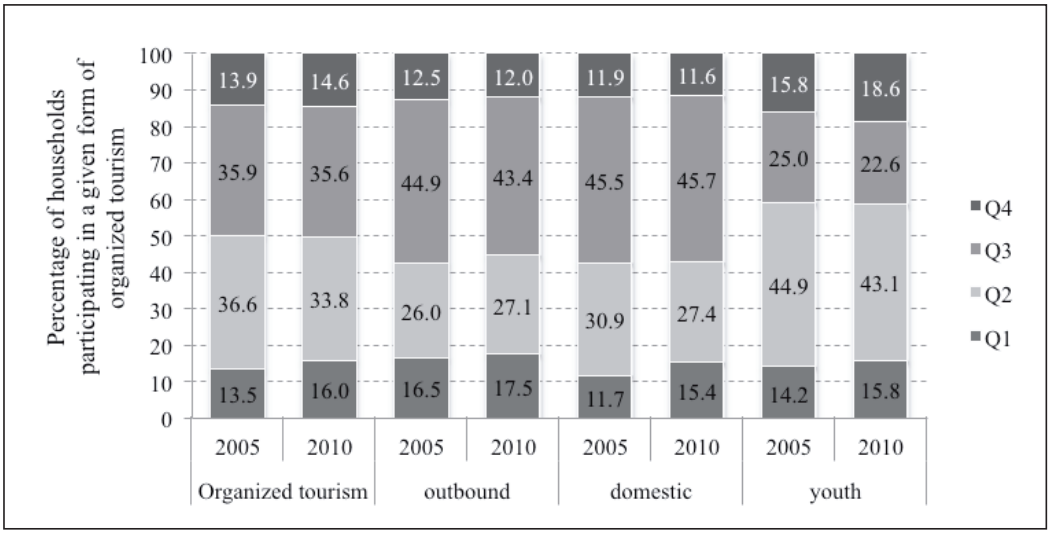

Figure 2: Seasonal structure of the total participation in organized tourism in 2005 and 2010: together and broken down according to its three forms

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

Table 2: Index of similarity of structures for the seasonal structures of participation in organized tourism in 2005 and in 2010

Organized tourism	including:		
	domestic	outbound	youth
0.97	0.96	0.98	0.96

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

The seasonal level of households expenditures on organized tourism

Analyzing the average quarterly level of expenditures on organized tourism per capita among the entirety (participating or not) of Polish households (Fig.3), one can notice high concentration in the 3rd quarter of both studied years. The average level of real expenditures in the 3rd quarter of 2005 was 65.50 PLN/cap while of 2010 – 104.30 PLN/cap. In the other quarters, the averages varied between 11.30 and 27.20 PLN/cap in 2005, and between 17.60 and 47.60 PLN/cap in 2010.

The average expenditures in the 3rd quarters of 2005 and 2010 were more than double the size of average expenditures in the corresponding

2nd quarters despite the fact that the participation in the two quarters was roughly very similar (Fig.1). A straightforward explanation for this phenomenon can be the found in the lower prices in the 2nd quarter, that is, before the high season, which in Poland falls in July and August. Of the cheaper trips and vacations in the 2nd quarter take advantage mostly less affluent families, senior citizens, and school children. The latter often benefit from additional subsidies for youth tourism. On the other hand the greater expenditures in the 3rd quarter can be directly derived from the higher prices in the high season. Moreover, it was noted that in the 3rd quarter more households reported expenditures on more than one type of organized tourism than in the other quarters: 1.3% versus 0.8% in the 2nd quarter.

Taking into consideration the three types of organized tourism (Fig.3), one can discern more pronounced 3rd quarter concentration of expenditures on domestic than on the outbound organized tourism. In the case of domestic organized tourism the average expenses in the 3rd quarter were three and a half as high as in the 2nd quarter (both in 2005 and 2010), while in the case of outbound organized tourism only twice as high. Also, the Gini index showed much higher concentration for the domestic (0.62 in 2005) than for the outbound (0.36) tourism, although that distance shortened in 2010 (Tab.3). The observed differences were striking because the concentration in participation was not that much higher for the domestic tourism, especially in 2010. One should bear in mind however that the two forms of tourism differ in one aspect: even though the average expenses for domestic and outbound tourism were similar (e.g.: 43 PLN/cap and 49 PLN/cap in the 3rd quarter of 2010, respectively), the participations were not: 8.8% and 3.8%, respectively. If we analyze these averages only among the households that participated in a given form of organized tourism, the levels turn out to be 414 PLN and 1220 PLN for domestic and outbound tourism, respectively. The latter form is therefore much more expensive, and addressed to a more affluent consumer. Affluence, in turn, is one of the factors that according to Rosselló (2004) flattens the seasonality: "[with growing income] seasonality tends to be smooth. That is consistent with the changes in the holiday preferences that involve people to separate their holidays into several sub-periods as more income is available".

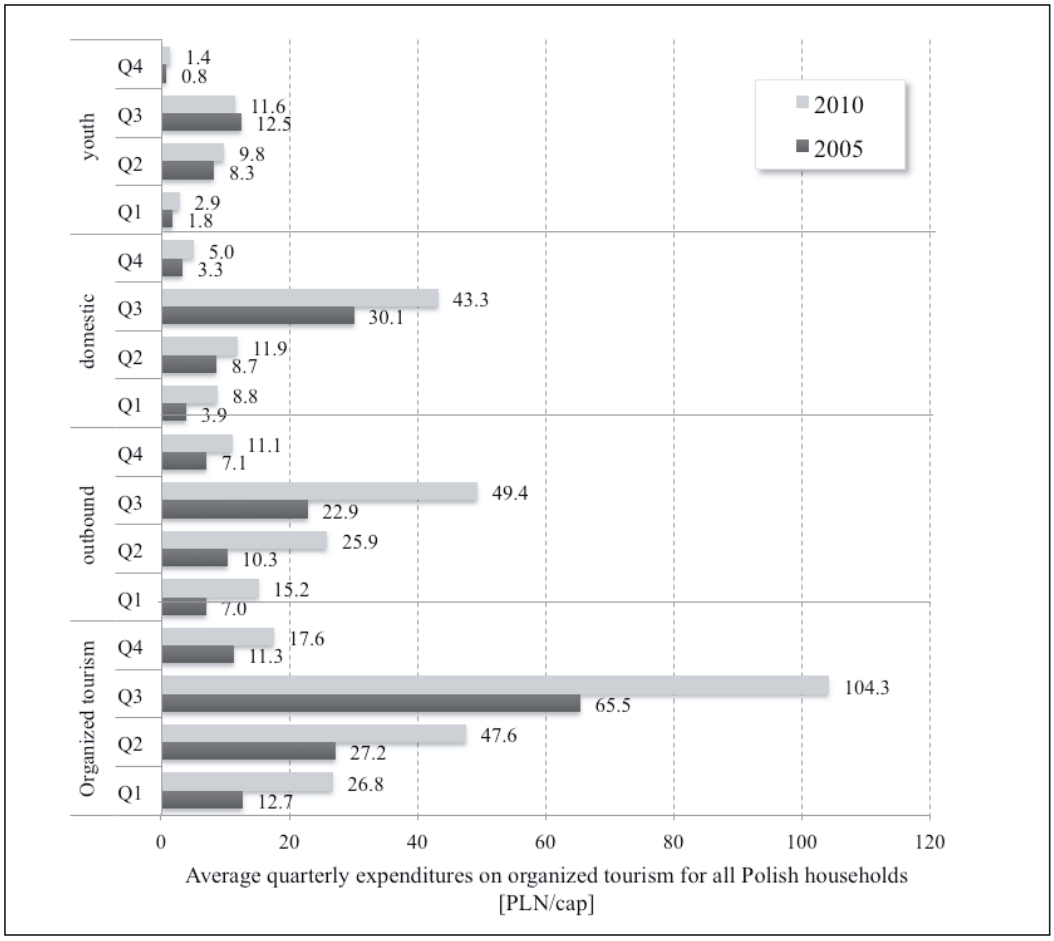

Figure 3: Average level of household expenditures on organized tourism in the four quarters of 2005 and 2010

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

The average quarterly expenditures on organized youth tourism were lower than on the other forms of organized tourism. They were also less concentrated in the 3rd quarter, mainly because the 2nd quarter expenses played a more significant part than among the other forms of tourism (Fig.4). Youth tourism was also the only form that reported a drop in 2010 in average expenses in the 3rd quarter, which helped bring down the Gini index from 0.59 to 0.49. These changes may be due to the growing preference for family vacations during the high season at the expense of summer camps (Głowicka-Wołoszyn et al., 2013).

Calculated values of the Gini index (Tab.3) show the 2005-2010 reduction in quarterly concentration of the level of expenditures on organized tourism – both jointly and separately for each of its forms. The lowest seasonality was exhibited by the outbound form of organized tourism, much lower than the domestic one, which is a direct consequence of the difference between weather conditions in popular foreign destinations in North Africa and those in Poland.

Table 3: The Gini index – concentration of quarterly levels of household expenditures on three types of organized tourism

Years	Gini index			
	Organized tourism - together	including:		
		domestic	outbound	youth
2005	0.51	0.62	0.36	0.59
2010	0.48	0.57	0.41	0.49

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

The comparison of the quarterly structure of household expenditures in 2005 and 2010 (Tab.4) showed a very close agreement between the analyzed years in all three forms of organized tourism.

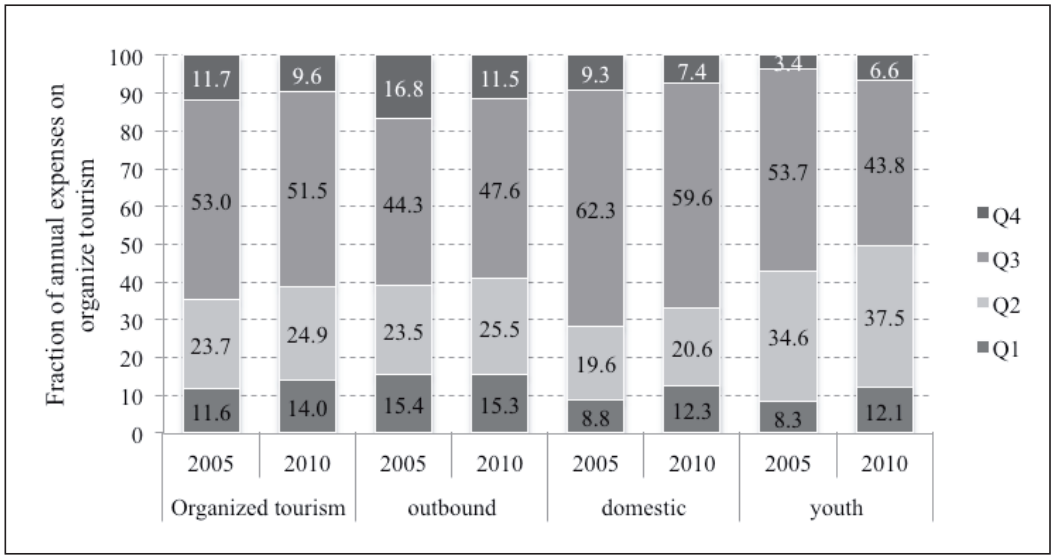

Figure 4: Seasonal structure of the total expenditures on organized tourism in 2005 and 2010: together and broken down according to its three forms

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

Table 4: Index of similarity of structures for the seasonal structures of expenditures on organized tourism in 2005 and in 2010

Organized tourism	including:		
	domestic	outbound	youth
0.96	0.95	0.95	0.90

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

Interactions of demographic, social, and economic factors with the seasonality of household demand for organized tourism

As mentioned in the introduction, there may be many factors that cause seasonality of the tourist demand, both natural and institutional. Moreover, on the demand side of the market, there exist other factors, economic, demographic, or social, that while not being directly responsible may intensify or weaken the extent of the seasonal concentration. The paper analyzes three of them which have already been demonstrated to interact heavily with the tourist demand itself: income, age, and education (Demelas, 2009).

It is commonly acknowledged that the household income is the key determinant of tourist demand (Dziedzic & Skalska, 2012) and that the tourism expenditures are highly susceptible to the income changes (Urbaniec, 2011). Rosselló (2004) also claims that the seasonality of tourism is closely related to the income because the preferences of better-off tourists change towards a number of short term trips throughout the year and from one single stay in the summer. This paper shows that among the Polish households the picture is somewhat more complex. Having classified the households into four quartile classes according to the income level per person, the tourism expenses were analyzed in each one of them (Fig.5). The participation in tourism among the least affluent first class concentrated in the 2nd quarter and was lower but equally distributed in other quarters. Moreover, in 2010 this class reported a drop in participation in the 2nd and 3rd quarter together with a rise in the 1st and 4th quarter, which nevertheless did not compensate for the losses. Such changes obviously resulted in a significant reduction of the seasonality index (Tab.5). The overall small degree of seasonality in this class was accompanied by a practically negligible level of expenses, which may mean that most the reported participation was subsidized. The concentration of participation in the 2nd quarter was also seen in the second class, but here the level of expenditures was highest in the 3rd quarter (of both years). This fact gives credibility to the conjecture that relatively smaller seasonality in poorer classes stemmed from the substitution effect of high prices in the high season rather than from any existing preferences, especially that the 2010 drop in the 3rd quarter of both participation and expense levels was concurrent with the onset of the crisis, which is known to first affect the fund of discretionary spending of the poor.

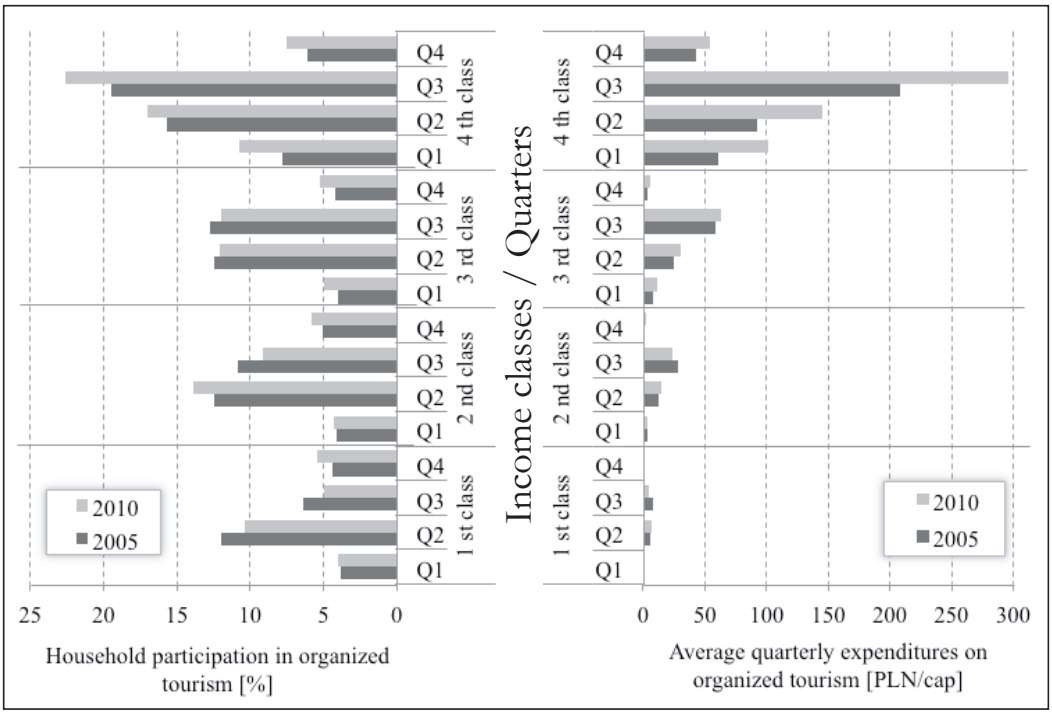

Figure 5: Seasonal participation of households and average level of expenditures on organized tourism in 2005 and 2010 in quartile income classes

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

Income level showed a most pronounced correlation with the participation in the 3rd quarter, observed throughout the income distribution, and in the third income class the participation in this quarter matched that of the 2nd quarter. This class reported in both quarters a small drop in participation in 2010, which was offset by a rise in the 1st and 4th quarters. Consequently the seasonality index plunged from 0.35 to 0.27 in 2010. As in the second income class, here, too, the average level of expenses concentrated in the 3rd quarter.

Among the households of the most affluent fourth class the participation was considerably higher in every quarter than in the other classes and the average level of expenses surpassed all remaining three classes combined. Both participation and level of expenses concentrated in the 3rd quarter but the seasonality index of participation was not very high and the seasonality index of expenses was the lowest of all four income classes in both years: a consequence of relatively high participation and expense levels in other quarters (Tab.5). The tourist activity of this income class during the low seasons can be derived from the much higher participation in the outbound tourism, which for the Polish tourists usually means south-

ern countries, where the weather conditions are friendlier for much longer than just the two months of short Polish summer. Relatively better-off tourists can also afford additional winter trips or ski holidays, which may account for much of the high participation and expense levels in the 1st quarter. Finally, the obtained results, pointing to the reduced seasonality among the most affluent households, are consistent with the conclusions of Rosselló (2004), though his study involved both organized and individual tourists.

Table 5: The Gini index – seasonal concentration of household participation and level of expenditures on organized tourism in quartile income classes

Feature	Year	Gini index			
		1st class	2nd class	3rd class	4th class
Household participation in organized tourism [%]	2005	0,33	0,32	0,35	0,33
	2010	0,26	0,32	0,27	0,30
Average quarterly expenditures on organized tourism [PLN/cap]	2005	0,53	0,65	0,64	0,44
	2010	0,45	0,56	0,58	0,43

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

An important demographic factor that influences the tourism demand of a household is the age of its head (Kozera et al., 2013). The households of younger people still tend to participate more in organized tourism. However, they usually are formed by families with children and so one should expect that their vacation trips will fall during the school breaks. The households of older people are less constrained and they – as the society as a whole begins to age – have been increasing their participation in organized tourism (Dziedzic & Skalska, 2012). Still, from 45 years old on, the participation steadily falls (Głowicka-Wołoszyn et al., 2013).

The quarterly analysis of the participation and volume of organized tourism related expenditures showed that the age group of 25-44 spent most and most often of all the analyzed age groups. Each of them reported in 2010 an increase in participation and the expense level (the latter being considerable) and each, except the youngest, showed a reduction in seasonality, both participation and level.

In 2010 the Gini index in the three youngest groups varied between 0.50 and 0.53, while in the three oldest – between 0.36 and 0.44 (Tab.6). However, the values of Gini index for seasonality in participation are more difficult to explain. The was a surprising low

0.23 for the 35-44 age group and unexpectedly high 0.36 for the 55-64 age group. The first may be explained by the fact that the families of this age group typically have school children: they spend less off-season but their children do participate in youth tourism, characteristically less seasonal than other forms. The second, high value for sexagenarians is more difficult to account for, but one should remember that "people do not change their travel behavior just because they turn 60 or 65, or because they retire. In most cases they stick to the holiday patterns acquired till the middle of their life" (Lohmann & Danielsson 2004).

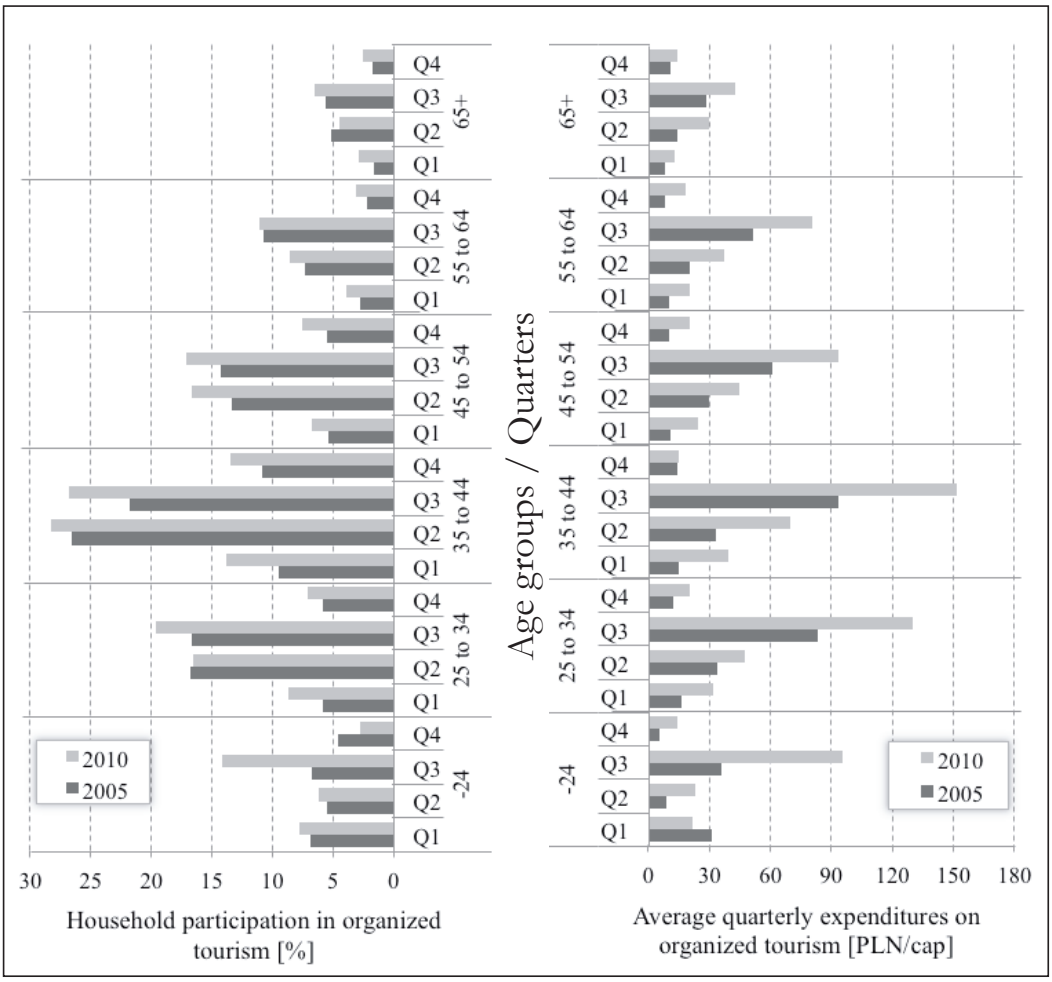

Figure 6: Seasonal participation of households and average level of expenditures on organized tourism in 2005 and 2010 in groups according to the age of household's head

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

Table 6: The Gini index – seasonal concentration of participation and of household expenditures on organized tourism in groups according to the age of household's head

Feature	Year	Gini index					
		-24 lat	25-34	35-44	45-54	55-64	65+
Household participation in organized tourism [%]	2005	0,12	0,32	0,30	0,30	0,43	0,37
	2010	0,39	0,29	0,23	0,28	0,36	0,28
Average quarterly expenditures on organized tourism [PLN/cap]	2005	0,46	0,53	0,55	0,51	0,52	0,37
	2010	0,53	0,50	0,54	0,44	0,43	0,36

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

Among the social factors that affect the tourism demand the most important seems to be the education level of the household's head. It is an important predictor of both participation and the level of expenditures on organized tourism (Kozera et al., 2013). Some authors point to the positive correlation between the educational level and tourist activity (Niezgoda, 2012).

The obtained results showed that the greatest participation and expense level were among the households with high education (Fig.7). In 2010 this group reported an increase in both participation and expense level in all four quarters. At the same time the index of seasonality was in both years lower than in any other group and dropped significantly in 2010. The reason for the small degree of seasonality can be found in the tight connection between education and wages, and consequently the financial condition of a household. Moreover, better education is closely related to more personalized needs and to preference for other forms of organized tourism than "sun and beach": from social and agrotourism to cultural, or even enotourism. Those forms are typically organized off-season.

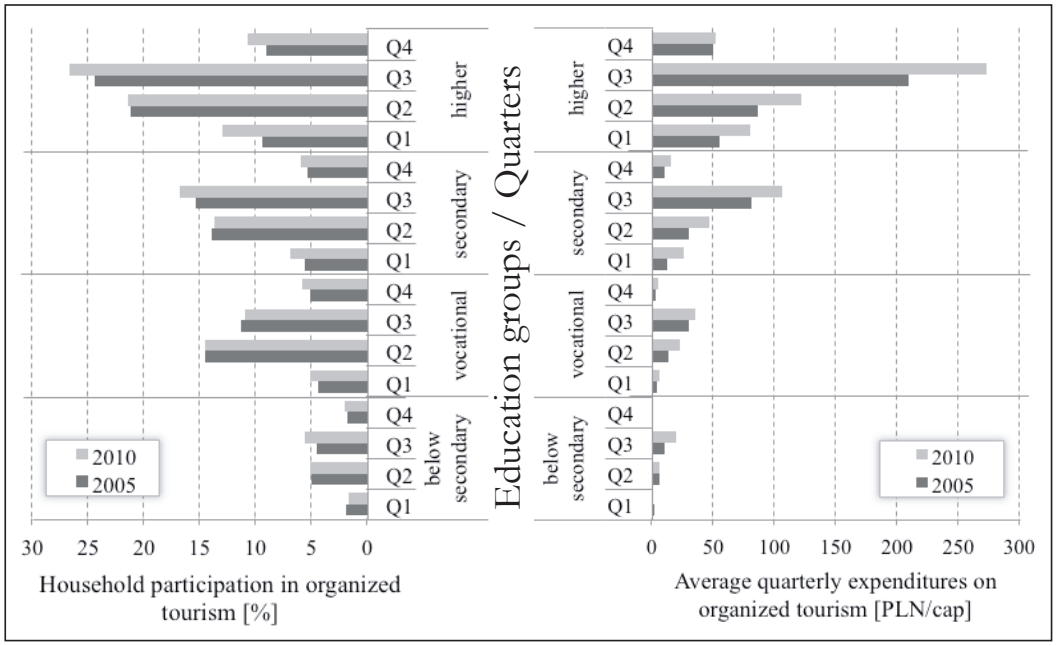

Figure 7: Seasonal participation of households and average level of expenditures on organized tourism in 2005 and 2010 in groups according to the education of household's head

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

Table 7: The Gini index – seasonal concentration of participation and of household expenditures on organized tourism in groups according to the education of household's head

Feature	Year	Gini index			
		below secondary	vocational	secondary	higher
Household participation in organized tourism [%]	2005	0,32	0,34	0,32	0,30
	2010	0,34	0,31	0,30	0,26
Average quarterly expenditures on organized tourism [PLN/cap]	2005	0,58	0,58	0,56	0,42
	2010	0,70	0,50	0,49	0,44

Source: own work based on micro data from the Household Budget Survey conducted by Central Statistical Office in 2005 and 2010

CONCLUSIONS

The conducted research of the fractions of Polish households reporting expenditures on organized tourism and of the level of these expenditures in 2005 and 2010 allowed to formulate the following conclusions:

1. More acute severity of quarterly seasonality was observed in the level of expenditures on organized tourism rather than in household participation, i.e., in the incidence of their incurrence. The

participation in organized tourism concentrated in the third and second quarters, while the level of expenditures was decidedly highest in the third quarter. In 2010, in comparison with 2005, there was an increase in household participation in organized tourism, an even greater increase in the level of the expenditures, and a noticeable reduction in seasonality.

The preference of the Poles for travel, the accession to the EU, and increase in the analyzed period of the main economic indices (GDP, household income) resulted in the fact that the economic crisis, that bankrupted some of the Polish travel agencies, was not observed to affect the interest in organized tourism among the Polish households as a whole between 2005 and 2010.

2. Participation in various forms of organized tourism showed relatively small seasonality in youth tourism, more pronounced in outbound, and substantial in domestic tourism. The latter also exhibited the highest degree of seasonality for the level of household expenditures. Observed differences in the behavior of quarterly seasonality of domestic and outbound tourism were directly related to the weather conditions in Poland and in popular foreign destinations, and to the preference of Polish households for outbound travel.
3. The expenditures on organized tourism were considered according to the financial situation of Polish households in 2005 and 2010. The most affluent one-fourth of the households was characterized by a considerable increase in participation and level of expenditures and by reduction of seasonality in 2010. This class also exhibited the lowest seasonality in the average expense levels in both analyzed years. Relatively low seasonality in participation among the poorest one-fourth was a consequence of small interest in organized tourism, which was further diminished by the economic crisis, whose consequences affected in a certain measure all but the richest income class. The findings are consistent with those of Rosselló et al. (2004), who found falling seasonality indices as the income increased. The rapid expansion of organized tourism observed in Poland between 2005 and 2010 was spread more evenly than what had feared Baron (1975) when commenting that tourism expansion often means an expansion of the main season.
4. The study found an interaction between expenditures on organized tourism and the age and education of the household's head, which is consistent with the findings of Lohmann & Danielsson (2004) and Dziedzic & Skalska (2012). Seasonality was lowest in the households headed by seniors of 65 years and older and by persons with higher education, which is directly related to their preferences.

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