A Comparison of Tourist Evaluation of Beaches in Malta, Romania and Turkey

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Abstract

The characteristics, perceptions, attitudes and behaviour of beach users at three locations: St George's Bay, Malta, Mamaia, Romania and Olu Deniz, Turkey, were determined from questionnaire surveys. Respondents comprised locals, domestic ond foreign tourists. Results far these parameters had substantial agreement both across the three beaches and with previaus studies. The amounts beach users were willing to pay (WTP), via the contingent valuation method and their consumer surpluses (CS), via the travel cost method were determined. The average amount beach users were willing to pay per visit, was £0.64 on St George's bay, £0.32 on Mamaia and £0.94 on Olu Deniz. The willingness to pay varied with social closs, earnings, amount of beach use and between local, domestic and foreign user groups. The consumer surplus also varied for these groups as British tourists had a CS of £0.62 per visit, with domestic Turkish ond Ramanian users having values of £0.46 and £0.69, respectively. Diminishing marginal utility, as measured by WTP, with beach use was found in all three surveys. Charging far actual use would be acceptable for the majority of beach users. Coastal zone managers could realise significant revenues from beach users if they charge adults on a per visit basis (the favaured mode of payment) and spend the revenue on the maintenance and improvements identified by the users. Only one of the beaches (Olu Deniz, Turkey) currently has restricted access, which would facilitate such a payment methad.

Keywords: *Beach, perception, contingent valuation, travel cost, consumer surplus, willingness to pay, Malta, Romania, Turkey*

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Introduction

Tourism on a world scale is massive, and there appears ta be a crucial relatianship between tourism and the beach (Raybauld and Mules, 1999). For the USA, Haustan (1996) has shawn that beaches are the leading taurist destinatians. Eighty-five percent af all taurist revenues are earned by coastal states largely due to the attroction of beaches. Miami attracts mare than twice the number af people (21 millian) wha visit the Grand Canyan, Yasemite and Yellowstone National Parks annually. In the Mediterranean an explosion of internatianal visitars has occurred with mare than 198 millian visitars

compared to a world tourism trade of 620 million and beaches are the main attractions (MMT, 1999). For example, the target set by the Turkish government for 2001 is 12 million tourists. This record level will require an investment of $3.41 per tourist and is part of a plan to move away from low income tourists to those having higher earnings and therefore higher spending potential (Anon, 2001).

This huge industry has spawned many researchers who have written myriod papers on the subject. However, the number of research papers written from the viewpoint of beach users is relatively small. This paper analyzes responses from beach users in three countries (two in the Mediterraneon and one in the Black Sea). The three beaches selected are all located in prime tourist areas, sited either very close to urban areas or are actually within an urban area (St George's, Malta). Respondents' ratings of the appearance of these three beaches were found to be excellent (Olu Deniz, Turkey), good (Mamaia, Romania) and fair (St George's, Malta).

The relationships between attitudes to and perceptions of the beach, beach use, socio-economic demagraphics and tourist types, were compared with: users stated (hypothetical) economic valuations for using the beach (Willingness To Pay) together with an estimate of their consumer surplus estimated from their travel cost demand schedule. To test the volidity of using a hypothetical value, users were asked their expenditure on other leisure activities. The concept of diminishing marginal utility, which is expected for consumption of any good, was used to further test the validity of this hypothetical data. The validity of both willingness to pay using contingent valuation (hypothetical scenario) and consumer surplus using the travel cost method have been subject to debate for over twenty years. For a brief review of the literature see Blakemore *et al.*, (2000).

Methodology

A questionnaire was designed and given to beach users at three selected beaches in Malta (n = 60) Romania, (n = 50) and Turkey, (n = 91). The size of the survey was limited by resource availability. The data for Turkey includes a pilot sample (n = 30) carried out previously. The questionnaire covered items such as their views of beach attractiveness and their willingness to pay (WTP) to use/maintain the beach. At each beach an attempt was made to interview every fifth person/group encountered either entering the beach area (Malta) or sitting on the beach. A very low non-response rate (1%) was experienced in all three surveys. This approach excludes beach users actively swimming etc. from the sample. However, many respondents cited swimming and other active leisure pursuits as a major part of their beach activities, which coupled with comparisons with the results of other larger surveys (see results & discussion) suggest that the sample may be taken to be a good representation of the beach population. Standard techniques of analyses were utilised in order to evaluate economic concepts such as WTP and CS. WTP was ascertained using an open-ended format i.e., the respondents valuation was not prompted in any way by the questionnaire nor by the interviewer.

Three of the four surveys (including the pilot in Turkey) were carried out in August, the high point of the summer season, whilst the fourth was carried out in May a less intense period for beach use. All surveys were carried out on a weekday, throughout the day from mid- morning until early evening.

Two of the beaches selected were among the most popular destinations in those countries for British tourists, which allowed for a comparison of this nationality on different beaches and in different countries. The third beach was in a country undergoing a transition from "classical" communist management to a new entrepreneurial regime.

The three beaches are physically very different and represent, according to their beach users, different levels of quality of experience, ranging across the spectrum poor, good and excellent.

Thus, selecting these three beaches and the two seasons allowed the study to analyse many factors that might affect the economic valuation placed upon the beach experience.

The Beaches

a) Mamaia, Romania

This is the biggest coastal resort in Romania with a 8 km long beach located on a narrow sand bar some 250 m in width between Siutghiol

Lake in the west and the sea to the east. It is linked to the City of Constonta by o wide highway. The beach is formed of terrigenous sediments brought by the river Danube plus organogenous sediments. The sand is a pale yellow in colour and is fine groined. Coastal erosion is a large problem due to extension dykes especiolly at Midia Harbour, which interrupts the flow of longshore sediments. Six coastal defence structures in the form of offshore breakwaters (at a 5 m depth) run parallel to the shore. In addition some 2 km of beach has hod beach nourishment. The beoch slopes gently to a depth of 4 m. and has many access points. Local bar/cofé owners are taking advantoge of the "post-communist" era by plocing their tables, chairs etc. on the beach in front of their premises. This "beach appropriation" could be utilised to collect any charge imposed for beach use.

b) Olu Deniz, Turkey

Olu Deniz, locoted within the Fethiye special protection area, consists of a long spit (2-3 km) 100-200 m wide with a beach composed of cobble sized materiols. There is essentially only one entrance obout holf woy down the spit and it is located some 20 minutes drive from the large tourist resort town of Marmaris on the Mediterranean coast and is probably the most popular Turkish beach. Morgan and Williams (1998) and Morgan *et al.*, (1995) carried out a pilot study of beach user opinions and calculated their own beach rating for five Turkish beaches (n = 245). Olu Deniz, gave the highest rating (87 %) bosed upon weighted values for 47 different aesthetic ospects. Further aesthetics study surveys by Williams *et al.*, (2000) have shown that out of 28 tourist beaches located between Izmir and Antalya, this beach rated number 3 and the adjacent lagoon number 4. Over 210,000 visitors arrive by air at the nearby Dalaman Airport for August (BTS, 1999) and some 15,000 orrive by sea. The single entrance point could be used to collect fees.

c) St George's, Malta

St. George's Bay is located about 3 km from Volletto and consists of a roughly rectangular bay 600 m long by 200 m wide with two small pockets of sand accumulations located at the Northwest and Southeast corners. Elsewhere the water line is represented by bare rock or else most commonly by a hard concrete quay. These two 'pocket beaches' correspond to discharge points of two watercourses within the watershed of the bay. A road backed by a low wall seporates the beoch from the hinterland. A beach nourishment progromme is planned which would extend the beach some 40 m seawards. Collection of fees for beach use would not be a problem since the proposed beach nourishment envisages construction of a wide promenade to separate the existing road from the beach, thereby limiting access to two points which would be appropriate collection points.

Table 1. Demographics for the three beaches: St George's Bay, Malta, Mamaia Beach, Romania and Olu Deniz b=Beach, Turkey

	Malta	Romania	Turkey
Sample size	60	50	91
Locals	17%	23%	5%
Domestic tourists	3.3%	77%	16%
British	40%	#	74%
Dutch	18%	#	-
Others	21.7%	#	5%
Age profile, mean	40.7 years	35.1 years	34.6 yeors
Age profile, range	21-75 years	18-60 years	18-65 years
Number of adults in group	1-30	1-4	1-5
Children in group	10%	50%	37%
Number children in group	0-2	0-2	0-4
Professional	37%	44%	31%
Skilled- manual	34%	38%	59%
Retired, student unemployed.	29%	18%	10%
Mean earnings	£18,400 p.a.	£1,023 p.a.	£14,300 p.a.

The original sample had 3 respondents from Western Europe, which were discarded.

Results and Discussion

a) Demographics

The age profiles for beoch users are similor for all three beaches (Table 1). However, users on St George's, Malta, had an older profile. The time of the Malta survey (May, 2000) does not seem to have significantly offected the demographics as tourism data for Malta reflects that older tourists ore not solely limited to 'shoulder months'. For example, data for the year

ist arrivals were more than 65 years old, followed in 2nd place by 45-49 year olds and jointly in 3rd place were 50-54 and 25-29 year olds (NTOM, 1997). Respondents mainly represent family groupings with one to five odults and zero to four children. Again, the picture at St George's is slightly different with some respondents having come as part of a large party of adults.

Classification by occupation (Table 1) gave similar results for St George's, Malta and Mamaia, Romania, with a higher proportion af skilled, semi-skilled and manual workers and a lower proportion of retired or student respondents than the sample at Olu Deniz, Turkey.

Average earnings of the British tourists in the Maltese survey was £21,000 well above the British average of £18,200 (Hinde, 1998), whereas the British tourist average value in Turkey of £16,500 was well below the British averoge. This is partly due to higher incomes enjoyed by the retired respondents in Malta compared to the averages for these samples (Table 1) are also affected by the standard of living enjayed in that country and by the other nationalities within the samples. For the Romanian survey the average earnings seem very high compared with a typical salary for e.g. a medical doctor in Romania, *circa* £61 per month but there is on extensive block morket thot makes afficial figures a gross underestimate of real earnings.

b) Beach use, perceptions ond attitudes

With the exception of local residents, most visitors were on vacation for either one or two weeks. There was limited evidence of longer stay visits by retired people in the off peak season survey in Malta. Frequency of beach visits was also similar for thase not local to the resort (Table 2). The proportion using the beach most doys or every day was slightly lower for St George's, Malta (74%) than for the other two locations (80% Romania and 85% Turkey).

In all three surveys the vast mojority of users spend between 1 and 8 haurs on the beach per visit. This confirms findings on other beaches in the world e.g. 85% in metropolitan Adelaide (Anon.,1988). Reasons for visiting the beach are given in Table 2, which indicates that the users on all three beaches had similar purposes in mind; "views and fresh air" was the primary reason fallowed by swimming and walking. Enjoying nature and wildlife was a small part of the Romanian experience but a significant part of the Turkish one.

The high value of enjoyment on Mamaia Beach, Romania, expressed as a proportion of the total holidoy enjoyment (84%), is in contrast to that found for foreign tourists on the Turkish beach (60%) but compores favourably with Australian research studies e.g. Anon. (1988) that gave a value of 80%. This may reflect the fact

Table 2. Beach use

a) Frequency of visiting the beach:

	Malta	Romania	Turkey
Everyday	16%	64%	32%
most days	58%	16%	53%
one day/ week or less	26% (17% locals)	20% (all locals)	15%
Duration in days, excluding locals	4-14, (one af 28)	5-12	6-14

b) Duration of eoch beoch visit:

	Malta	Romonio	Turkey
less than 1 hr	14%	0%	1%
1-4 hours	64%	54%	35%
4-8 hrs	15%	40%	56%
more than 8 hours	7%	6%	8%

c) Recreotional octivities:

	View ond fresh air	Swimming	Walking	Children's play	Water sports	Nature & wildlife
Molto	67%	28%	39%	11%	10%	16%
Romonio	76%	56%	34%	22%	22%	2%
Turkey	77%	*	*	*	*	24%

NB. The survey in Olu Deniz, Turkey did not breok recreatian down into these categories, however the response for "recreation" was 100%.

Table 3. Beach aesthetics:

a) Appearance of beach

	Enjoyment*	excellent	good	foir	poor	bad
Malta	47%	7%	17%	44%	25%	7%
Romania	84 %	8%	54%	30%	8%	0%
Turkey	60%	56%	41%	3%	0%	0%

b) Dislikes

	litter	poor facilities	water quality	Sewage	Smells	Dog mess	seaweed	lack of sand	noise	poor access
Malta	50%	8%	15%	20%	10%	15%	28%	60%	43%	15%
Romania	98%	56	30%	24%	16%	16%	14%	10%	6%	2%
Turkey	63%	18%	40%	0%	9%	44%	0%	24%	18%	13%

c) Concern for beach management and specific suggestions for improvement:

	Malta	Romania	Turkey
Coastal erosion	60%	46%	63%
Special protection	35%	22%	57%
Improvements	70%	72%	36%
Suggestions	53%	60%	34%

d) Improvements suggested

	Malta	Romania	Turkey
Better Sand #	42%	42%	16%
Better management	3%	12%	3%
Protection from erosion	0%	8%	0%
Leveller beach	0%	2%	0%
Privatise beach	0%	2%	0%
More facilities	19%	0%	12%
Less traffic	2%	0%	0%
Better access	3%	0%	3%

* Enjoyment of the beach is the stated proportion of the total holiday enjoyment.

\# better sand includes; cleaner, more of, texture, etc.

that domestic tourists do not perceive a different culture, food, history, language or climate when on holiday and thus assign a higher proportion of their enjoyment to beach activities. As expected, the value for St George's, Malta is even lower (47%). This is likely to be due to the generally degraded nature of the existing sandy beach and the 'off-season' timing of the survey: In addition, the result may reflect the impact of the predominance of rocky shore within the bay and the general dissatisfaction of overseas beach users with this type of bathing platform (Micallef *et al.*, 1998). The issue of beach nourishment at St George's has been well publicised in Malta and may have raised domestic expectations, which may also partially explain the low enjoyment ratio found on this beach.

Beaches were rated according to appearance (Table 3). The beach at Olu Deniz, Turkey, was perceived to be much better than the beach at Mamaia, Romania with St George's, Malta having the lowest rating. The poor rating at St George's is partially due to its urban setting, predominance of rocky-shore, and depleted sand. This is demonstrated in Table 3, which shows the dislikes of beach users. The main dislike at St George's was the lack of sand, whereas for the other two surveys it was litter, but litter and noise were also significant dislikes at St George's. At Mamaia, litter, beach cleanliness and poor facilities were the most prevalent dislikes (Coman *et al.*, 1999). The corresponding dislikes at Olu Deniz were dog mess and water quality. Some 54 % of Romanian respondents rated the beach as 'Good' but perceived a need for improvement. This need (Table 3) was lower for Olu Deniz, which was the most highly rated beach and was similar for the other two beaches investigated. These findings are in keeping with similar work carried for beaches elsewhere (Morgan *et al.*, 1995; Micallef *et al.* 1998).

No trend was found between the respondent's awareness of coastal erosion and or the need for special protection with their beach ratings. The number of respondents at Mamaia & St George's (the two lower rated beaches) suggesting a specific improvement was significantly lower than those wanting an unspecified im-

provement. However, these levels of need for improvement (Table 3) are much higher than the figure for Olu Deniz. The main improvements suggested were better sand, more sand and cleaner sand which was the highest ranked response at oll three locations. More facilities was the second ranking suggestion for Malta and Turkey, whilst better monogement was ronked second in the Romanian survey. These findings should be of particulor interest to the praposed beach nourishment ot St. George's Boy, Malta.

c) Willingness To Pay

The proportion of respondents willing to poy, wos similar for Mamaio, Romania and for Olu Deniz, Turkey, (Table 4). The amount respondents on St George's Beach, Malta, were willing to pay was significantly less. However, respondents on St George's Beach, who were willing to pay, were prepared to pay a larger amount (Table 4). The findings for Olu Deniz matched those from other Turkish beaches e.g. a WTP of £0.89 per day for beaches in the Cesme Peninsulo (Unal and Williams, 1999).

The majority of respondents in oll three surveys believed that children should not have to poy, but the figures supporting this view ore variable (Table 4). This does nat seem ta reflect the composition af the survey, as the Momoio, Romania sample hod the lowest support for this policy, despite hoving the highest percentage of family groups. It would appear that this is a cultural difference between a mainly local Romanian somple and mainly western European samples ot the other two locations.

Were the amounts that respondents gave for WTP realistic? For Mamaia Romania, the average value corresponds to 11% of the respondent's average daily earning which is an order af magnitude greoter thon far the other two surveys. The Romanians also have a high cast of holidays to earnings rotio, ranging between 1 to 10 months of their average earnings with often the trade unian paying 40% of the cost of the holiday. Therefore, Romanian respondents may have a distorted picture of this market, or this moy be further evidence of cultural differences between Ramanians and the other nationolities surveyed.

To put the stated WTP into perspective, respondents were asked to nome activities that they found marginally more and marginally less

Table 4. Contingent valuation

a) Respondents Willingness To Pay to maintain or improve the beach:			
	Malta	Romania	Turkey
WTP	48%	82%	88%
Av. value of those WTP	£1.41	£0.37	£1.07
Av. value of whole sample	£0.64	£0.32	£0.94
Av. WTP / daily earnings	0.013	0.11	0.024
Children free	91%	40%	86%
b) Preferred method of payment:			
	Malta	Romania	Turkey
Per visit	33%	43%	73%
Tourist tax	24%	29%	7%
Voluntary box	20%	19%	12%
Car parking	23%	9%	8%

enjoyable than visiting the beach and to soy how much they generally spent on them. These activities and their associated perceived expenditures are shown in Table 5. With the exception of one value (sightseeing at £0.81) oll expenditures given are greater than the users WTP for the beach. This is equally true for the marginally less enjoyable activities given by respondents in Malta and Romania, which is also shown in Table 5. Mead and Sorensen (1970) faund that a visit to the beach is 1.74 times more enjoyable than a visit to the cinema and suggest that the beach visit moy be valued at 1.74 times this cost. Such a valuation would produce figures greater than the WTP obtained in our surveys. Blakemore and Willioms (1998) found that 74% of British subjects surveyed in south-east Wales, were WTP and the mean value that respondents were WTP was £1.25 per visit. This moy be compared with British tourists WTP valuations of £0.86 for St George's Bay and £0.95 for Olu Deniz. In addition, Micallef (1996), identified that up to 57% of overseas beach users interviewed in a survey on four prominent beaches in Malta were willing to pay between 1 - 5 US$ for well managed beaches. The author also noted that Maltese locals were frequently paying between 2.25 - 4.50 US$ for the use of large outdoor hotel swimming pools which possibly reflects

Table 5. Enjoyment of other activities

a) Marginally more enjoyable activities than using the beach

	Romania		Malta		Turkey	
	Frequency	Perceived Cast	Frequency	Perceived Cast	Frequency	Perceived cost
Drinks in a bar	14%	£2.64	2%	-	0%	-
Water sports incl. boating	14%	£8.93	5%	£3	16%	£11
Sports	8%	£5.40	0%	-	7%	-
Shopping	6%	£6.50	8%	-	3%	-
Eating or picnic	4%	£6.50	5%	£14	2%	£10
Swimming Pool	2%	£2.03	0%	-	16%	-
Walking	0%	-	25%	-	10%	-
Reading	0%	-	3%	-	3%	-
Sight seeing	2%	£0.81	18%	£7	10%	£10
Nothing better	0%	-	0%	-	5%	-

b) Morginally less enjoyable activities:

	Romania		Malto	
	Frequency	Perceived Cost	Frequency	Perceived Cost
Eating	8%	£6	3%	£5.50
Mini golf	-	-	0%	-
Shopping	18%	£12	15%	
Sight seeing	4%	-	2%	-
Swimming pool	-	-	3%	-
Sport	6%	£2	3%	-
Stay in	22%	-		
Walking	-	-	3%	-

This question was nat asked in the Turkish survey.

the viewpoint thot locals might also be willing ta pay for similarly well managed beaches. Dharmaratne and Brathwaite (1998) studied WTP far beach use in Borbados, their mean valuation wos equivalent to £1.69 per day. These comparisons further validate that the WTP values found in these surveys are affordable by the respondents and are realistic.

The relationship between the amount those who were willing to pay were prepared to pay per visit and their earnings is shown in Table 6. For those beaches where British tourists were the major users, four earning categories were used. The middle two categories represent bands based around British average earnings and cover the ranges 67% to 100% and 101%

Table 6. Willingness to pay and earnings

St George's, Malta		Momaia, Romania		Olu Deniz, Turkey	
Earnings £ pa	WTP £/visit	Earnings £ pa	WTP £/visit	Earnings £ pa	WTP £/visit
27001-50000	1.12	1440-4800	0.43	27001-50000	1.24
1800 -27000	1.02	871-1200	0.36	1800 -27000	1.16
12001-18000	0.93	600-870	0.28	12000-18000	1.10
Below 12000	0.99	480 and below	0.21	Below 12000	0.93

Table 7. Willingness to pay for different social classes

	St. George's, Malta		Mamaia, Romania		Olu Deniz, Turkey	
	%WTP	WTP £/v	%WTP	WTP £/v	%WTP	WTP £/v
Professianal	29	2.02	84	0.38	91	0.93 (1.01)
S, SS& M	44	1.09	81	0.32	97	0.96
Retired, Student, Unemployed	90	1.18	89	0.42	100	0.87

Key: S - Skilled; SS Semi-skilled; M- Manual

to 150% of British overage earnings. The two remaining categaries represent earnings either side of these middle bands. The categories for Romonia (domestic use) are based around clusters found in the reported earnings of the respondents. All three samples show an increase in the average WTP as the earnings category increases.

Respondents were divided into three social classes based upon their accupations. The three groupings were: a) professionals, b) skilled, semi-skilled and manual workers and c) retired, student and unemployed respondents. Professionals were generally less likely to be willing to pay than both other social groupings (Table 7). Those professionals who were willing, were prepared on overage to pay a higher amount per visit than the skilled, semi-skilled and manual workers group, however there was no clear trend for the retired, student and unemployed group in this respect.

If WTP is a true reflectian af a hypothetical market then users should display other market characteristics e.g. diminishing marginal utility. This is demanstrated in Table 8 for St George's Bay and for Mamaia in twa parameters: the amount respondents were WTP and the proportion of respondents WTP. A higher value af both parameters wos found for visits of shorter duration. The data for Olu Deniz is less cleor cut, due to the small number of respondents spending both short and long periods on the beach and the similarity of the results obtained for the two middle categories of beach duration. Diminishing marginal utility was indicated by users of Olu Deniz Beach when beach use was meosured using daily frequency (Table 9).

A weak inverse correlation between the beach users roting af beach appearance and their WTP and the amount that those having a WTP were prepared to pay, is shown in Table 10. Results from St George's and Olu Deniz showed a definite trend between the amounts those WTP would pay and their perception af need for improvement. The data for Mamaia was weaker showing that thase who rated the beach excellent were not prepared to pay as much as the other categories. Also, there is a weak trend for both, increased WTP and the amount respondents were willing to pay with lower beach rating. Over all three beaches a weak but consistent trend was found. Each respondent stated how much they valued the particular improvement(s) they would have liked. There is therefore, an inbuilt assumption that all the money raised would be spent on those improvements.

Table 8. Willingness to pay and beach use (duration)

	St George's, Malta		Mamaia, Ramania		Olu Deniz, Turkey	
Duration on beach (hours/day)	W T P %	amount WTP £ per visit	W T P %	amount WTP £ per visit	W T P %	amount WTP £ per visit
less than 1	75	1.67	-	-	100	VSR
1-4	67	1.01	93	0.38	97	0.97
4-8	50	VSR	72	0.34	98	0.99
more than 8	0	0	75	0.20	57	VSR

Note: the Very Small Response (VSR) obtained in some categories.

Beach users may be misinterpreting the beach rating, in the sense that an excellent beach rating may additionolly imply 'good value for money' and vice versa for a poor rating. This would of course influence (reduce) their willingness to pay since their excellent rating is partially dependent on the free access status of the beach. However, the strongest correlation occurs for beaches used mainly by foreign tourists. The amount fareign tourists ore willing to pay is almost insignificant compored with their total holiday cost. Thus, it is unlikely that this interoction is significant.

The preferred mode of payment in all three surveys was to pay per visit (Table 4) and this was a clear majority response in Olu Deniz. A tourist tax goined some support in both St Georges and Mamaia but had a low response rate in Olu Deniz. The relative popularity of a tax payment system in Romania might be postulated to derive from a greater acceptance of central control i.e. perhaps ex-communist countries have more faith in government or less experience of free markets. However, this is not so os there is on existing "resort tox" at Mamaia, a 2% surcharge on hotel chorges is in operation. The revenue is explicitly for maintaining o clean resort but litter is still evidenced on the beaches. Also franchises for private beaches have been granted with opportunities for commercial activities in return for cleaner beoches. Therefore, there is a newly develaped beach market in operation in Romania.

d) Travel Cost and Cansumer Surplus

Tourists travelling to the beach from their accommodation took only a short duration , typically 5-20 minutes and in the main found the experience enjoyable, therefore, na significant opportunity cost was incurred. Therefore, this element was excluded in the calculation of their travel costs below. Opportunity cost is the cost of time spent travelling to and from the site and is calculated based on a fraction of the respondent's hourly wage. The exact fraction to use has been the subject of debate, o review is given by Bateman (1993). If the respondent enjoyed the trip it can be argued that there is no opportunity cost.

Table 9. Willingness to pay and beach use (frequency) for Olu Deniz

	Every day	Most days	2-3 days	1 day	rare
WTP	40%	67%	50%	-	-
Ave. value per visit	£0.93	1:15	1.34	-	-

Mamaia Beach, Romonia

Time spent travelling to the resort and returning to the respondents home averaged 5.3 hours for domestic tourists, but the opportunity cost of this time was small compared to their actual holiday expenditure (comprising 0.25% to 3.5% of total expenditure) and so this debatable cost has been excluded. The remaining cost of the holiday for domestic tourists ranged between £81.16 ta £811.60. The demand curve generated by dividing the tourists into short stay (3-5doys) and long stay (6-12 days) gave Consumer Surpluses of £0.71 and £0.68 per odult per beach visit respectively. The average value for damestic tourists was higher than that found for local beach users (Table 11). Consumer surplus is the difference between the consumer's valuation of a good or service, i.e. whot they are winning to pay for the good or service, and the market price they actually pay. If the seller could segment the mar-

Table 10. Willingness to poy and beoch oppearance rating

	St. George's, Malta		Mamaia, Romania		Olu Deniz, Turkey	
	WTP %	WTP £/V	WTP %	WTP £/V	WTP %	WTP £/V
Excellent	40	VSR	75	0.23	79	1.01
Good	44	1.03	81	0.39	97	1.29
Fair	40	1.04	87	0.36	VSR	VSR
Poor	75	1.22	75	0.38	-	-
Very Bad	50 *	VSR	-	-	-	-

* denotes result heavily influenced by local residents

Table 11. A comparison of WTP and CS for local, domestic and foreign beach users

	St George's		Malta		Mamaia		Romania		Olu Deniz		Turkey	
	WTP £/v	CS £/v	WTP £/v	CS £/v	WTP £/v	CS £/v	WTP £/v	CS £/v	WTP £/v	CS £/v		
Locals	0.39	1.08	0.28	0.39	0.55	VSR						
domestic	VSR	VSR	0.37	0.69	0.74	0.46						
British	0.86	0.62	-	-	0.95	0.63						
Dutch	0.55	0.30	-	-	-	-						

VSR denotes very small response

ket, so that, each consumer purchased the good or service at their own WTP, then the consumer surplus would be extra sales revenue. For a straight line, downward sloping demand curve, the consumer surplus is the triangular area under the curve between zero demand at the maximum WTP and the actual demand at the market price.

St George's Bay, Malta

Travel time between accommodation and the beach was essentially the same for all foreign tourists, therefore, excluding this opportunity cost allows consistency with the other beaches and does not affect the value of the consumer surplus calculated from the travel costs. The remaining cost of the holiday was on average; £381 for British visitors and £387 for Dutch visitors. The consumer surplus was found to be highest for locals, followed by British tourists and then Dutch tourists (Table 11).

Olu Deniz, Turkey

Average expenditure on the holiday package was £230 for British tourists (the main tourists at this beach) and their consumer surplus was found to be higher than that of domestic tourists (Table 11).

In each case, it was found that there were two dominant positions on the travel cost demand schedule, i.e., two data points. Thus, a linear relationship is assumed in each case. Spearman's correlation coefficient for a straight line formed from two data points must be 1.0. However, this does not prove that there is in fact a linear relationship. Many studies have used a linear relationship between travel cost and demand for example, Bell and Leeworthy (1986) and Brown (1993).

Comparison and Policy Implications

The consumer surplus (CS) of locals is less than that of domestic tourists for Mamaia; this is also true for the WTP per visit. These trends are echoed at Olu Deniz, but the very small sample of locals at Olu Deniz prevented the calculation of a meaningful CS for them (see Table 11). Similarly the small sample size of domestic tourists at St George's Bay precluded comparison with this group. The CS for locals at St George's is considerably higher than for any other group. In general it could be postulated that the data shows that foreign tourists have higher valuations (WTP and CS) than domestic tourists, who in turn have a higher valuation than local beach users. However, it must be remembered that foreign tourists also had higher incomes than the domestic populations in our study. Therefore, it would appear that the high value found for the local beach users on St George's Bay (n=10), is atypical. The CS of British tourists on St George's bay was found to be within one pence of that of British tourists on Olu Deniz Beach (£0.62 and £0.63 respectively, Table 11).

Economic theory requires CS to be less than WTP for a proposed gain or loss of welfare (Bateman and Turner, 1993). In our survey the respondent was asked how much they were prepared to pay to maintain and/or improve the beach. Thus, a weak form of welfare gain is investigated. In this situation, WTP is a measure of compensating surplus. The Consumer Surplus calculated from the travel cost data is based upon a use valuation only, whereas WTP may also include non-use values and this wider valuation may allow the WTP to exceed the CS. A relatively higher figure for WTP implies that respondents are not only giving a market (use) value but also an existence and/or an option value for the beach. In the Romanian survey, CS was greater than WTP, but this was not the case for Malta and Turkey. The close proximity of WTP and CS values found for each category of beach user (again excluding the local beach users in Malta) despite the small sample sizes

used, validates the robustness of the samples taken ond the methods used.

It has been suggested that the WTP found from the Contingent Valuation Method is downward biased. Bishop and Heberlein (1979), compared a hypothetical WTP with an actual market price and found that WTP was considerably lower. This does not appear to have occurred in this study os the WTP was found to be similar to and/or greater than the CS.

The type of data presented provides for sound rotional decision making regarding beoch monogement guidelines accarding to Williams and Dovies (1998). The demographic surveys give an indicotion of the oge structure, social class of the beach user and amenities con be tailared to suit this category of taurist. The WTP of different user groups indicotes how people are prepared to sacrifice spending money for the soke of beoch improvements. It is important to stress that people are only prepared to pay if the money is collected locolly and spent purely on beach facilities. In the cose of Turkey, it provides o strong argument for a chonge to existing law. It may imply that independent trusts or chorities shauld be used to collect and spend such revenues. It certainly argues for good cammunication between beoch managers and beoch users. Beach managers need to communicate how the quality of the experience has and is being improved, the costs involved and the revenue raised from beoch use.

In Romania recent changes in the law have enabled both commercial develapment and better management of the beaches: In 1998, the "National Company Romanian Water" (NCRW) was made the manager of the Ramanian beaches (HG981,1998). Exclusions from this control are beoches and cliffs monaged by the Notional Company of Maritime Constanta Harbour and the "Donube Delta" reservation. The best results from this tronsition can be seen on Momoia Beach. Beach facilities developed on private beoches in the last year (2000), included; provision of litter bins, showers, beds ond sunshades. Unfortunately, some beach commercial agents are not fulfilling their contractual obligotions (e.g. litter is not collected).

One of the clauses, in the Romonian government legislation, HG107 (1996), stipuloted that during 2000 the commerciol ogents should present projects to obtain o beach classification in the category one dolphin e.g., providing and upgrading toilets and showers. HG 107 allows the beach commercial agents to sell soft drinks and packaged foods. Without this development itinerant commercial trade is encouraged on the beach, offering products thot may be unhygienic. This itinerant trade continues to exist on beaches with no action being taken by local authorities. None of the respandents on Mamaia Beach cited itinerant trade os a dislike. However, this unofficial trade may damage the official agent's profitobility and so threaten the success af this appraach.

At present in Romanio there are no charges for tourists to enter privatised beoches. Only Constanto Beoch, which is a public beach, has implemented charges for tourists. A commercial agent manages the beach and is required to develop the tourist potential of the beach (HG514, 1998). The charge (tox) for one person is £0.12 /person (3000 lei/person).Our study suggests that this charge could be increased further. The way to further utilise the beach from a commercial point of view is being studied through tourism experts provided by the German government at the request of NCRW. The final report will show if the strotegy adopted is appropriote for Romania.

Conclusions

Beoch users had many common factors such as: age, group size, classification by employment, duration of vocation, frequency of use, time spent on activities pursued on the beach. The main differences were: the high proportion of notionals on the beach at Mamaia, their considerably higher evaluation of beach enjoyment compared to total enjoyment of their vacation and the off peak season sample periad at St George's Bay.

The three beoches studied represented the range: fair, good or excellent appearance ratings, as judged by their surveyed users (Toble 3). The most important priority for improving all three beoches was to have more sand, better sond and cleaner sand. A weak correlation between increased WTP with a lower beach rating was found which suggests thot respondents are prepared to pay mare when the perceived need for improvement is higher.

The proportion of respondents who expressed a WTP was similar on all three beaches. Although the average amount that the beach users were WTP an Mamaia was half that found on the other two beaches, it represents a very high ratio of WTP to average daily earnings. This suggests a different socio-economic attitude for Romanians compared to the other nationalities surveyed.

On oll three beoches, trends were faund that suggest that respondents WTP increoses with earnings. The variotion af WTP with accupatianal groupings suggests thot prafessionol peaple are less likely to hove o WTP but those thot are willing ore prepared to pay mare. A thorough understanding of these trends is essentiol to both tourism and coastal managers when a shift in beach user demographics is planned (Turkey) or expected, as may be the case on Constonto Beach, Romania, following the introduction af chorging for beach use.

Diminishing Marginal Utility (DMU), as measured by WTP, with beach use was found in all three surveys. Foreign tourists from wealthy countries were prepared to pay more than domestic tourists were, who in turn, were prepared to pay more than local beach users.

Coastal Zone Managers need to take account of DMU when setting prices for beach use. Beaches with higher use by locols or tourists that spend longer an the beach will not tolerate the higher price that infrequent or shorter stay users will accept. This could result in a seasonal pricing structure with higher charges in the off season when users spend less time on the beach! In practice it is unlikely that different prices can be set for different market segments, so the price will be constrained by the most price sensitive segment, unless the aim is to reduce beach use in order to maximise revenue.

The preferred mode of payment was via a payment per visit ta the beach for adults only. This maybe due to respondents familiarity with this type of payment in everyday transactions, or it maybe a manifestation of their desire ta see the revenue directly linked to expenditure on the improvements. This form of charging is likely to be difficult to implement on most beoches, except where a convenient access point occurs as at Olu Deniz and potentially at St George's. This would require a change in the coastal law in Turkey, but results given in this paper indicate that this is what peaple seem to desire.

Good agreement was found on the respondent's valuation of a beach visit using contingent valuation (WTP) and travel cost (CS) methads. The validity of these valuatians wos further justified by comparing respandent's expenditure on other leisure activities.

The similarity af the results found across the three surveys and between this work and that of others (Morgan and Williams, 1998; Blakemore and Willioms, 1998; Anon. 1988; Coman *et al.*, 1999; Morgon *et al.*, 1995, Dharmaratne and Brathwaite, 1998; ond Micallef *et al.*, 1999) suggests that reseorchers can use small samples to good effect in aiding coastal zone management.

Contingent valuation and travel cost techniques con aid palicy formotion and manogement decision making for the provision of free recreational facilities. However, the values found from such techniques are only opproximate at best ond require; o realistic and unambiguaus scenario for the respondent to volue in the case of the CVM, and careful explorotion of the true costs ond benefits associated with the visit in the case of the TCM.

Further work is required to develop a fuller understanding of the beach evaluation process and to compare tourist evaluations of a wider range of beaches, beach use and for a wider range of cultures.

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