

## **A linear review of the Great Recession's impact on tourism behavior**

H. Leslie Furr  
Georgia Southern University

### **ABSTRACT**

The Labor Department's 2012 consumer spending report highlighted the format taken by recent recession during the alteration of conventional tourism consumer spending habits. Consumer expenditure data concerning the transformation of travelers' dining choices during the recession also disclosed that these new dining preferences persisted for years into the recovery period. In fact, the recorded decrease in food expenditures, from December 2007 to June 2009, was the largest inflation-adjusted amount ever recorded by the Bureau of Labor Statistics (BLS). The increase in unemployment to 9.3% in 2009, another recessionary change factor, reduced travel consumers' spending levels for other travel attributes other than food. The findings in this paper were based on approximately responses from 7,898 randomly-selected, face-to-face interviews over a 78 month period. For the purposes of this study, the spending behavior of the expansionary (30 month), recessionary (18 month) and recovery (30 month) time periods will be compared to analyze the effect of the Great Recession on tourists spending behavior. All interviews were randomized by day, site and time in Tampa over the entire longitudinal-study time period (2005 – 2012). The results of the study suggested that leisure travelers developed complicated spending patterns that do not conform to a simple "cheese slicing approach" adopted by many tourism corporations trying to create budget goals in the face of a stubborn recession.

Keywords: travel expenditures, travel spending behavior, economic growth, recession and recovery

Copyright statement: Authors retain the copyright to the manuscripts published in AABRI journals. Please see the AABRI Copyright Policy at <http://www.aabri.com/copyright.html>.

## INTRODUCTION

Consumers and corporate business managers share similar options for economizing behavior during travel. Cheese-slicing, efficiency savings and strategic prioritization form the basic spectrum of choices available to all travelers facing a stubborn recession (Bronner and de Hoog, 2011). Cheese slicing strategy for the tourist may mean choosing to reduce the combination of trip attributes rather than cancelling the trip altogether. The corporate travel manager faced with reducing the travel budget by 3 or 5% for the year may simply cut 3 to 5% of all scheduled travel days. The result for the travel market is identical, certain trip attributes such as number of nights, dining budgets, shopping expenditures and time for sightseeing must be economized or deleted by family or corporate fiat.

According to a 2009 survey by the Association of Corporate Travel Executives (ACTE), more than 70 percent of U.S. travel managers planned to spend less on corporate travel. The 2009 survey represented a sharp rift from an earlier ACTE poll (Sept. 2008), which found that only 33 percent of U.S. travel managers planned to cut travel spending for the next year. The cheese-slicing strategy works well for tourists and corporations who can reduce travel nights in order to impose stricter personal or corporate travel policies. Many corporations do have the added option, unavailable to the general public, to negotiate with travel suppliers who are intent on increasing occupancy percentages, turnover ratios and load factors in recessionary times. Fortunately lower lodging occupancy percentages do lead to somewhat lower prices for all travelers during the latter stages of a recession.

Efficiency gains that increase the quality of services without increasing the services expenses are often attained by reducing the number or quality of staff, redefining the organization or introducing new technologies. Immediate gains in efficiency for tourists often require the deletion of another part of the personal budget, such as a long-term saving for a college education fund, to balance a reduced budget. Similar family decisions actually come under the heading of strategic prioritization, an integral part of the decision making process from the very beginning. For families and corporations, effectiveness rather than efficiency is the primary goal of strategic planning.

### Strategic Planning During Tough Times

The hospitality and tourism industry suffered severely between 2007 and 2012. The majority of tourism retailers failed to immediately recognize that consumer behavior will never be quite the same again after this recession (Piercy, Cravens and Lane 2010). In fact, the tourism industry realized that the traditional business strategic model had to take a more responsible direction in light of the economic shocks that continued to rock the national economy. The recent Great Recession (2007-2009) triggered a reduction in demand for travel spending by creating an economic environment populated by potential travelers who were less inclined to travel. The new, millennium traveler, accustomed to decades of steadily rising incomes, reacted more conservatively to a murky, global economic crisis created by the recession. Actual research concerning the overall influence of the recent recession upon tourism behavior is rare (Smeral, 2009) but this period is rich with conventional economic data.

United States residents of all income levels tightened their belts primarily by eating out less during the 2007 – 2009 and the 1973 – 1975 recessions. According to the US Department of Economic Research Study Food Expenditure, the recent period of economic decline (2007-

2009), the greatest since the Great Depression of the 1930s, created deteriorating personal incomes and economic uncertainty among most Americans. Economization of food purchases by American was one direct result of the recession in the tourism industry. The decrease in aggregate food spending by all U.S. households during the recent recession represents the largest inflation-adjusted drop recorded by the Bureau of Labor Statistics' "Consumer Expenditure Survey" since the survey began in 1984. A portion of this study is dedicated to the leisure traveler's response to rising food prices and reduced income levels while traveling.

According to the US Department of Economic Research Study Food Expenditure Tables 2012, which included all sales by the food industry, away-from-home food spending dropped from \$533 billion in 2006 to \$513 billion in 2009 (in 2006 dollars). Actual sales at full-service restaurants dropped by 4.5% during the recession and meal and snack sales at motels declined at hotels and motels by 8.8%. Flexibility in commercial repositioning strategies that easily adapt to recessions should be a central part of every tourism-oriented hotel and restaurant's marketing plan (Stern, 2009) based on the general reaction of tourists to this recession.

Basic economic models of consumer income allocation and spending assume that all products and services are in competition with all other products and services (Crouch, 1994). Travelers, consciously or unconsciously, allocate their travel budget among various goods and services available at a destination at any point in time. Trip-related spending categories include expenditures on transportation, lodging, meals and beverages at restaurants, grocery shopping, entertainment, recreation, shopping, and sports (Spotts and Mahoney, 1991).

Overall tourist spending declines due to economic downturns, and as a result, the tourism industry strives to augment overall tourism demand for a destination and to maximize revenue through identifying travel spending priorities (Crouch et al., 2007). Anticipating the allocation of visitor travel expenditures is essential to prodding tourism spending in various travel markets within the specific marketing strategies designed for those travel markets. Destination marketers who comprehend how visitors allocate their travel budgets when adversely impacted by a reduction in income can form the basis for planning effective strategies for tourists facing a recessionary times. Strategic marketing development for the traveling public is dependent on tracking spending behavior changes over time and making this information available to destination management organizations and travel service providers (Ainslie and Peter, 1998).

This study explores the economic impact of the recent recession upon the spending behavior of visitors traveling to a southeastern United States destination staying at least one night in a commercial overnight lodging property. More specifically, the purpose of the research was to investigate recessionary impacts on travel spending and travel volume as reflected by ADR, sightseeing/entertainment, grocery sales, restaurant sales, lodging expenditures, and shopping over a 78 month period, including expansionary, recessionary and recovery time segments. Discriminant analysis was employed to analyze a data set containing information about visitors to Florida during 2005-2012. The study model concentrated on overall tourist spending behavior specific to spending categories historically associated with the on-site travel experience. The research model was defined specifically to control for economic time periods, socio-demographic variables and trip-related expenditures.

## LITERATURE REVIEW

### Visitor spending

The core measurement tool for economic-impact, tourism studies is per-person per-day travel expenditures. Visitor spending patterns, based on relevant expenditures, provides useful insights to tourism industry strategic managers (Mihalic, 2002). Most tourism researchers are forced to rely on travel expenditures from short-term events (Sun and Stynes, 2006). The total expenditure on the entire trip is the proven measurement method when data is collected by the survey method. For comparison reasons, total spending is converted to a comparable format by dividing by the length of stay by the number of days spent on the trip (Spotts and Mahony, 1991; Jang, Bai, Hong, and O'Leary, 2004).

### Economic conditions

Previous research studies confirmed the obvious link between economic conditions and customer expenditure patterns (Stock and Watson, 2003; Malgarini and Margani, 2007). A report by the National Bureau of Economic Research (NBER) identifies the dates of peaks and troughs that frame economic conditions (i.e., economic growth or recession) according to a chronology of U.S. business cycles. For the purpose of this study's time period (2005-2011), the NBER announced that a U.S. recession that began in December, 2007 ended in June 2009. During 2010 through 2011, the U.S. economy showed signs of improvement, and is considered to be a recovery phase of this study. However major economic indicators (e.g., unemployment rates) continued to fluctuate and consumer spending growth rose at its weakest levels in two years. Therefore, the period 2010-2011 exemplified economic transition from recession to recovery (Bureau of Economic Analysis, 2011).

According to Travel Industry Association of America (TIA)'s reports, during 2004-2005, the U.S. economy turned in its best performance in the past five years with the high growth in real gross domestic product (GDP), real disposable income and real personal consumption expenditures, and the drop in unemployment rate. During this economic expansionary period (2004-2005), domestic travel volume (total-person-trips) increased 2.1 percent in 2004 and 2.0 percent in 2005, and domestic travelers spent more than 6.8 percent in 2004, and 7.5 percent in 2005 compared to prior year levels. Specially, the growth rates of spending on lodging, entertainment, and food service in a destination were large (Travel Industry Association, 2006).

The 2007-2009 economic Great Recession, proved to be the most severe economic contraction since the 1930s. The economic indicators during this period represented severe economic conditions; the growth of real GDP in 2008 slowed only 0.4 percent over 2007, which marked the lowest annual rate of GDP growth since 1992. In 2009, real GDP dropped 2.6 percent over 2008. The national unemployment rate in 2009 increased up to 9.3 percent compared to the 2008 rate (4.6 percent). As expected, travel industry in the U.S. was dramatically hit during 2008-2009, and faced with the sharp decline in travel volume and total direct expenditures.

The recovery from the recession during 2010-2011 was shaped by the ongoing effects of recession. For instance, the unemployment rate continued to increase and gas prices soared. Nevertheless, the U.S. domestic travel volume increased 3.5 percent to a total of 1.96 billion

person-trips in 2010. Domestic travelers directly spent \$655.2 billion in 2010, a 7.4 percent increase from 2009 (Travel Industry Association, 2011).

## **METHOD**

### **Data collection**

This study concentrated on six travel related factors (food expenditures, lodging expenditures, trip purpose, sightseeing/entertainment, length of trip, and total per person expenditures) frequently cited in travel expenditure research. Data for this study were obtained from personal conversations (interviews) with individual visitors to Florida during 2005-2011. Data were collected by personal interviews with visitors by an independent, well-respected tourism research firm under contract with major destination management organizations (DMO) to track visitor travel and their activities throughout specific Florida destinations during this study's 78 month time period.

One of the distinct advantages for using long term periods of data is that the results are less susceptible to fluctuations related to performance metrics such as those used to analyze travel patterns (Crompton, Lee, and Shuster, 2001). Long term periods of data provide a much more accurate and realistic portrayal of performance indicators. Lodging occupancy rates, average daily rates, and food prices, for example, accurately reflect the impact of economic business cycles when using longitudinal data sets (Bell, Bonn, and Leeworthy, 1998).

During this study's time period, respondents were randomly contacted and interviewed at locations commonly frequently by Florida visitors. These areas included theme parks, restaurants, shopping areas, lodging properties, natural attractions, and various other locations. A randomized day/site/time sampling frame was used to establish data collection points throughout the study's time period. The survey used to collect visitor data was designed to measure on-site visitor spending at Florida destination areas. This paper specifically focuses on data obtained from visitors indicating that they stayed at least one night in a commercial lodging property which contributed visitor lodging fees collected as local accommodations taxes, otherwise known as "bed taxes." The survey instrument contained comprehensive information on (1) socio-demographic variables such as age, level of education, marital status (single/married), and annual household income, (2) current trip-related variables including length of stay, and party size, and (3) trip spending per person that occurred during the previous 24 hours prior to the interview intercept. The data set for this travel spending study represent travel expenditure categories for typical visitor goods and services provided to the traveling public including commercial overnight lodging businesses, restaurants, beverages, groceries, entertainment, and shopping. Total trip spending per person was determined by summing across all expenditure categories.

### **Selection of study variables**

This study selected one major types of dependent variables, total trip spending per person per day measured in US dollars, length of stay (days), and spending across six different expenditure categories (lodging, sightseeing, food and beverage (F&B) at restaurants, F&B at grocery stores, entertainment, and shopping). These variables were analyzed over three economic time periods - expansionary, recessionary and recovery to test the hypothesis that the Economic Downturn (2007-2009), aka the Great Recession, affected the behavior of tourists visiting the

Tampa Bay Area from 2009 - 2011.

## RESULTS

Discriminant Analysis (DA) was the chosen statistical analysis for this data that required a predicted outcome for time categories, a task that could not be handled by multiple linear regression analysis. The interesting categorical groups in this case represented expansionary, recessionary and recovery lengths of time. Each of the three periods of time was successfully defined based on a reduced list of traveler attributes. The classification methodology used Chi-Square to determine just how well the discriminant function separated the three time periods.

Table 1 indicates that these 14 travel attributes provide strong statistical evidence of significance difference between the means for each time category. The pooled inter-correlations were also low which lead the researcher to believe that these attributes were valid discriminators. Table 2, (Appendix) is the Stepwise Statistics Table which displays which attributes were loaded to the discriminant function in which order. Average daily rate, occupancy percentage, and lodging expenditures were loaded first as highly significant discriminating variables for the three economic time periods. Grocery expenditures were loaded next and indicate the possibility for another change in behavior other than ones associated with changes in lodging demand over time. See Tables 1, 2, 3, and 4 in the Appendix.

The table of eigenvalues (see table 3) identifies two discriminant functions (number of groups -1). The canonical correlation group 1 is .619 and .513 for group 2. Wilkes' Lambda indicates the significance of the discriminant function. The Wilkes' Lambda table (table 4) indicates a highly significant function ( $p < .000$ ). The table also provides the proportion of total variability not explained.

Average daily rate, total expenditures, and shopping were the three of the attributes that proved to be to discriminate well between the economic time categories. The structure matrix table below (table 5) provides another way to indicate the predictors' relative importance. In this case the structure matrix, which is considered more accurate than the standardized canonical function, because they serve like factor loadings in factor analysis (.30 is the demarcation between important and less important predictors). The groceries' sign indicates the direction of the relationship. See Tables 5, 6, and 7 in the Appendix.

Notice in Table 8 that 75.1 % of the survey respondents were accurately placed in the correct economic time period. Statistically, only 33% of the respondents would be accurately placed by chance. This successful discriminant function did 42% better than we could reasonably expect. See Table 8 in the Appendix.

### Impact of significant predictors on travel spending patterns

The results of these two predictor variables, total spending per person per day and length of stay) corroborate the traditional wisdom concerning travel spending and recessions in one way - that visitors are more likely to shorten they vacation stay when traveling after recessionary period. In this case the average stay dropped from 4.45 to 2.46 nights from the recessionary to the recovery period. Total expenditure for each day remained flat. Apparently, the families that chose to travel still spent about the same total funds daily and managed to meet budget pressures by shortening the trip, a cheese slicing approach.

Restaurant sales remained relatively constant from the expansion to the recovery periods. The group response to the recession by many travelers was to reduce total food expenditures by buying goods from the grocery outlets. Grocery expenditures doubled from the expansionary to the recovery periods. Of the changes in behavior noted in this study, it is likely that grocery sales are likely to remain a strong element in tourism sales package.

Sightseeing/entertainment in Tampa included theme parks, museums and other attractions that charged admission. The destination marketing area is known to be an area that could be enjoyed by all age groups but it is not an area that invites guests to sit in their rooms. People travel to Florida to play, hence the 76 dollar per person per day expenditure on sightseeing activities. On the other hand, daily shopping expenditures dropped by 50% after the recession. Travelers made another behavioral choice that may extend beyond the recovery period. Fewer available days on vacation reduces time available to shop, even if there was disposable income available to shop. See table 9 in the Appendix.

### **Results of the Predictive Spending Model**

Travelers will pay for hotel rooms regardless of rising prices. Restaurants are also essential products in the travel experience when compared with other traveler spending decisions. However, grocery shopping demonstrated a 100% increase during while many predictors such as evening entertainment remained almost flat illustrating the fact that travelers were willing to give up a portion of the restaurant budget.

Essential categories that cannot be easily replaced with alternatives include lodging, sightseeing and dining out. That does not mean travelers would not intentional substitute a less expensive DMO as prices rise (Caulkins, Bishop, and Bouwes, 1986; Huber and Puto, 1983). Therefore, this study indicates that recessions may create decreases in demand for restaurants, and length of stay which in turn increases spending at grocery stores.

### **CONCLUSIONS**

The discriminant function reduced several travel attributes for reviewing visitor spending from a much larger pool that offers a new perspective to understanding consumer behavior. Validating useful predictor variables through the discriminant function provided the means for comparing future spending behavior during and after the next recession. These enlightening study results offer other opportunities for future research for the development of visitor destination management strategies.

It is hard to imagine a world where total expenditures per person per day would not increase from year to year. The change in spending behavior among the various travel attributes will depend on the budget strategies employed by the traveler. What was surprising to learn in this study was validation of a 100% increase in grocery purchases resulting in reduced visitors spending at restaurants. The fact that travelers reduced the average length of stay by 42% has tremendous overall consequences upon the economic impact of overall visitor spending, to DMO's and lodging services.

## Implications for Destination Management Organizations (DMO's)

Destination management organizations (DMO's) retain little or no control over lodging or restaurant prices in the U.S. However DMO's are the very ones held responsible removing the recession's negative impact length of stay by visitors. Obviously a 42% drop in individual group's length of stay placing a DMO in the awkward position of attracting even more travelers just to break even. DMO's can capitalize on this information by creating value-added packages for recession-weary visitors.

DMO's can identify lodging partners willing to provide Embassy Suite-like open bars to tourists willing to stay one additional night with the identified lodging properties. Secondly, DMO's should realize that visitor spending behavior is impacted by more factors in the national economy than the U.S. unemployment rates and fluctuations in the GDP. Developing transportation systems for the time-strapped traveler would add value to any vacation. One reason New Orleans is so popular is the fact that every major attraction in the French Quarter can be reached on foot at most any time of day or night. Las Vegas is simplifying and streamlining the tourism experience by extending the elevated transportation system. The best way to add value to the traveler faced with economic and time constraints is yet to be invented, but when it does it will attract the notice of the kitchen table planners.

## REFERENCES

- Ainslie, A., and Peter, E.R. (1998). Similarities in choice behavior across product categories. *Marketing Science*, 17(2), 91-106.
- Bell, F., Bonn, M.A., and Leeworthy, V.R. (1998). *Economic Impact and Importance of Artificial Reefs in Northwest Florida*. Report for Office of Fisheries Management and Assistance Service Florida Department of Environmental Protection.
- Bronner, Fred and Robert de Hoog. (2011) Economizing behavior during travel: strategies and information Sources Used. *Journal of Vacation Marketing* 17(3) 185-195.
- Bureau of Labor Statistics, 2012. Consumer Price Index in 2011. U.S. Department of Labor U.S. Bureau of Labor Statistics. Retrieved on June 2, 2012, from <http://www.bls.gov/cpi/cpid1201.pdf>
- Bureau of Labor Statistics. Consumer Price Index – Average Price Data (Gasoline, Unleaded Regular-APU000074714). U.S. Department of Labor U.S. Bureau of Labor Statistics. Retrieved on June 2, 2012, from <http://data.bls.gov/cgi-bin/surveymost>
- Caulkins, P.P., Bishop, R.C., and Sr Bouwes, N.W. (1986). The travel cost model for lake recreation: a comparison of two methods for incorporating site quality and substitution effects. *American Journal of Agricultural Economics*, 68(2), 291-297.
- Corsi, T.M., and Harvey, M.E. (1979). Changes in vacation travel in response to motor fuel shortages and higher prices. *Journal of Travel Research*, 17(4), 7-11.
- Crompton, J.L., Lee, S., and Shuster, T.J. (2001). A guide for undertaking economic impact studies: the Springfest example. *Journal of Travel Research*, 40(1), 79-87.
- Crouch, G.I. (1994). The study of international tourism demand: a survey of practice. *Journal of Travel Research*, 32(4), 41-55.
- Crouch, G.I., Oppewal, H., Huybers, T., Dolnicar, S., Louviere, J.J., and Devinney, T. (2007). Discretionary expenditure and tourism consumption: insights from a choice experiment. *Journal of Travel Research*, 45(3), 247-258.

- Huber, J., and Puto, C. (1983). Market boundaries and product choice: illustrating attraction and substitution effects. *Journal of Consumer Research*, 10(1), 31-44.
- Jang, S.C., Bai, B, Hong, G.S., and O'Leary, J.T. (2004). Understanding travel expenditure patterns: a study of Japanese pleasure travelers to the United States by income level. *Tourism Management*, 25(3), 331-341.
- Jang, S.C., Morrison, A.M., and O'Leary, J.T. (2002). Benefit segmentation of Japanese pleasure travelers to the USA and Canada: selecting target markets based on the profitability and risk of individual market segments. *Tourism Management*, 23(4), 367-378.
- Jang, S.C., Morrison, A.M., and O'Leary, J.T. (2004). A procedure for target market selection in tourism. *Journal of Travel and Tourism Marketing*, 16(1), 19-33.
- Malgarinin, M., and Margani, P. (2007). Psychology, consumer sentiment and household expenditures. *Applied Economics*, 39(13), 1719-1729.
- Mihalic, T. (2002). Tourism and economic development issues. In Sharpley, R. & Telfer, D.J., *Tourism and Development: concepts and issues (pp. 81-111)*. Clevedon, UK: Channel View Publications.
- Piercy, N.F., Cravens. D.W., Lane, N. (2010). Marketing out of the recession: recovery is coming, but things will never be the same. *The Marketing Review*, Vol. 10. No. 1. pp. 3-23.
- Spotts, D.M., and Mahoney, E.M. (1991). Segmenting visitors to a destination region based on the volume of their expenditures. *Journal of Travel Research*, 29(4), 24-31.
- Smeral, E. (2009). The impact of the financial and economic crisis on European tourism. *Journal of Travel Research* , 48, 3-13.
- Spotts, D.M., and Mahoney, E.M. (1991). Segmenting visitors to a destination region based on the volume of their expenditures. *Journal of Travel Research*, 29(4), 24-31.
- Stern, Stefan. (2009). Get your strategy right now before the dust settles, *Financial Times*, July 21, p. 14.
- Stock, J.H., and Watson, M. W. (2003). *Introduction to Econometrics*. Boston: Addison Wesley Longman.
- Sun, Y.Y., and Stynes, D.J. (2006). A note on estimating visitor spending on a per-day/night basis. *Tourism Management*, 27(4), 721-725.
- Travel Industry Association of America (2006). *2005 Travel Impact on U.S. Economy Report*. Washington, DC: TIA.
- Travel Industry Association of America (2010). *2009 Travel Impact on U.S. Economy Report*. Washington, DC: TIA.
- Travel Industry Association of America (2011). *2010 Travel Impact on U.S. Economy Report*. Washington, DC: TIA.

## APPENDIX

Table 1 Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
<b># nights planned</b>	.968	121.553	2	7286	.000
<b># in party</b>	.977	86.130	2	7286	.000
<b>lodging \$</b>	.946	206.117	2	7286	.000
<b>restaurant \$</b>	.990	35.498	2	7286	.000
<b>groceries \$</b>	.944	215.803	2	7286	.000
<b>sightseeing \$</b>	.999	4.318	2	7286	.013
<b>eve</b>	.988	45.447	2	7286	.000
<b>entertainment \$</b>					
<b>event tickets \$</b>	.999	4.326	2	7286	.013
<b>sport fees</b>	.996	14.084	2	7286	.000
<b>shopping\$</b>	.978	80.233	2	7286	.000
<b>total\$</b>	.996	15.767	2	7286	.000
<b>Age</b>	.981	69.217	2	7286	.000
<b>education</b>	.998	8.109	2	7286	.000
<b>occpancy %</b>	.801	903.834	2	7286	.000
<b>ADR</b>	.768	1102.988	2	7286	.000

S B

**Table 2 Stepwise Statistics Table**

Step	Entered	Wilks' Lambda							
		Statistic	df1	df2	df3	Exact F			
						Statistic	df1	df2	Sig.
1	ADR	.768	1	2	7286.000	1102.988	2	7286.000	.000
2	occupancy %	.574	2	2	7286.000	1165.469	4	14570.000	.000
3	lodging \$	.545	3	2	7286.000	859.668	6	14568.000	.000
4	groceries \$	.523	4	2	7286.000	697.477	8	14566.000	.000
5	# in party	.506	5	2	7286.000	591.432	10	14564.000	.000
6	shopping\$	.490	6	2	7286.000	519.947	12	14562.000	.000
7	# nights planned	.477	7	2	7286.000	465.076	14	14560.000	.000
8	evening entertainment	.471	8	2	7286.000	415.870	16	14558.000	.000
9	Age	.465	9	2	7286.000	376.995	18	14556.000	.000
10	total\$	.463	10	2	7286.000	341.991	20	14554.000	.000
11	sport fees	.460	11	2	7286.000	314.086	22	14552.000	.000
12	event tickets \$	.458	12	2	7286.000	289.342	24	14550.000	.000
13	sightseeing \$	.456	13	2	7286.000	269.441	26	14548.000	.000
14	restaurant \$	.455	14	2	7286.000	250.652	28	14546.000	.000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.

- a. Maximum number of steps is 30.
- b. Minimum partial F to enter is 3.84.
- c. Maximum partial F to remove is 2.71
- d. F level, tolerance, or VIN insufficient for further computation.

**Table 3 Eigenvalues**

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.642 <sup>a</sup>	76.6	76.6	.625
2	.196 <sup>a</sup>	23.4	100.0	.405

a. First 2 canonical discriminant functions were used in the analysis.

**Table 4 Wilks' Lambda**

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.455	5732.182	28	.000
2	.737	2218.328	13	.000

**Table 5 Standardized Canonical Discriminant Function Coefficients**

**Table 5 Standardized Canonical Discriminant Function Coefficients**

	Function	
	1	2
# nights planned	.244	.011
# in party	.348	.081
lodging \$	-.174	-.095
restaurant \$	.037	.100
groceries \$	-.351	-.012
sightseeing \$	.221	.245
evening entertainment \$	.262	.255
event tickets \$	.118	.194
sport fees	.169	.076
shopping\$	.485	.279
total\$	-.558	-.542
Age	.171	.039
occupancy %	-.293	1.326
ADR	.905	-.891

**Table 6 The Structure Matrix**

**Structure Matrix**

	Function	
	1	2
ADR	.698*	.030
groceries \$	-.308*	-.034
lodging \$	-.263*	-.195
# nights planned	.230*	.035
# in party	.193*	.036
shopping\$	.183*	.061
Age	.146*	.128
evening entertainment \$	.117*	.107
total\$	-.082*	-.020
sport fees	.073*	.040
education <sup>b</sup>	-.028*	-.021
occupancy %	.344	.700*
restaurant \$	-.099	-.101*
event tickets \$	-.018	.053*
sightseeing \$	-.020	.051*

**Table 7 Functions at Group Centroids**

Prepost	Function	
	1	2
Expansion	.476	.419
Recession	.988	-1.494
Recovery	-1.054	-.162

Unstandardized canonical discriminant functions evaluated at group means

**Table 8 Classification Results**

**Classification Results<sup>a,c</sup>**

		Prepost	Predicted Group Membership			Total
			Pre recession	Recession	Post recession	
Original	Count	<b>Expansion</b>	<b>3197</b>	<b>515</b>	<b>486</b>	4198
		<b>Recession</b>	<b>273</b>	<b>736</b>	<b>146</b>	1155
		<b>Recovery</b>	<b>544</b>	<b>0</b>	<b>2001</b>	2545
	%	Expansion	76.2	12.3	11.6	100.0
		Recession	23.6	63.7	12.6	100.0
		Recovery	21.4	.0	78.6	100.0
Cross-validated <sup>b</sup>	Count	Expansion	3190	521	487	4198
		Recession	283	723	149	1155
		Recovery	545	0	2000	2545
	%	Expansion	76.0	12.4	11.6	100.0
		Recession	24.5	62.6	12.9	100.0
		Recovery	21.4	.0	78.6	100.0

**a. 75.1% of original grouped cases correctly classified.**

b. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

**c. 74.9% of cross-validated grouped cases correctly classified.**

**Table 9 Comparison of Significant Predictor Variable Means by Time Categories**

Mean

Prepost	lodging \$	# nights	restaurant	groceries	sightseeing	shopping	total	ADR
<b>Expansion</b>	106.2	4.15	70.81	13.13	77.74	35.97	357.52	96.64
<b>Recession</b>	125.1	4.45	77.81	11.35	66.07	38.06	360.65	104.52
<b>Recovery</b>	133.1	2.56	82.66	25.10	77.84	14.45	390.24	85.78
<b>Total</b>	117.6	3.67	75.65	16.95	76.33	29.11	368.89	94.29