“AN APPLICATION OF THE DIARY METHOD TO DATA COLLECTION AND ANALYSIS FOR THE TOURISM SECTOR”

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ABSTRACT

Tourism plays an important role in many countries around the globe by creating foreign exchange and generating employment, and by contributing to a more balanced spread of economic activity in areas with few alternative economic opportunities. Considering this importance, the continuous growth of the sector and the increasingly competitive environment, accurate tourism statistics are vital. While there is a general agreement that the tourism statistics are suboptimal due to inappropriate data collected, little research has been conducted into investigating new ways to gather more accurate data to describe tourist behaviour. Currently most expenditure data is collected through exit-surveys, which leads to too much data-aggregation and there are also concerns regarding the quality because recall error can alter the accuracy.

The diary method is well known as a tool for data-collection in many areas outside tourism-research, and has been proven to deliver more detailed and more accurate data. This thesis will investigate the use of the diary method in tourism, explore its applicability and show in a case-study how the better quality of data can be applied to gain new insights into tourist-behaviour, e.g. adding temporal and geographical dimensions to expenditure analysis. The case study analyses the spending behaviour of a specific tourist market and illustrates at the same time the innovative features of the diary method.

The study reveals that the concerns surrounding the diary approach are generally unfounded. The issues that arise e.g. conditioning effect or low response rates, are less of a problem than recall error and in addition there are many corrective measures that researchers can use to avoid the consequences. Using a unique dataset comprising of 297 diary questionnaires, the expenditure analysis revealed links between the spending and different socio-demographic and trip-related characteristics of tourists. In addition, since diaries give a temporal and geographical dimension to the data, it is possible to investigate the variations in spending over the days of the trip and the mobility of tourists and their level of spending in specific areas. The study shows, for the first time, that although the level of spending for different cohorts significantly differs, the expenditure trajectory follows a general pattern regardless of the tourist group under study.
Declaration

The author hereby declares that, except where duly acknowledged, this thesis is entirely his own work and has not been submitted for any other degree in the University of Limerick or any other University.

Neviana Clermont

April 2011
Dedication

To Markus and Andreas
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I would like to thank my advisor, Prof. Jim Deegan, for his hints, valuable tips and the amount of time he invested to supervise my research work.

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<td>ABTA</td>
<td>Association of British Travel Agents</td>
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<tr>
<td>APD</td>
<td>Airport-Pairing Database</td>
</tr>
<tr>
<td>CRS</td>
<td>Country of Residence Survey</td>
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<tr>
<td>CSO</td>
<td>Central Statistics Office</td>
</tr>
<tr>
<td>DAST</td>
<td>Dept. of Arts, Sport and Tourism</td>
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<tr>
<td>ERDF</td>
<td>European Regional Development Fund</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GNP</td>
<td>Gross National Product</td>
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<tr>
<td>HTS</td>
<td>Household Travel Survey</td>
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<tr>
<td>IMF</td>
<td>International Monetary Found</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>ITIC</td>
<td>Irish Tourist Industry Confederation</td>
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<tr>
<td>NCTPS</td>
<td>National Centre for Tourism Policy Studies, UL</td>
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<tr>
<td>NDP</td>
<td>National Development Plan</td>
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<tr>
<td>NSB</td>
<td>National Statistics Board</td>
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<tr>
<td>NTPRG</td>
<td>National Tourism Policy Review Group</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>OLS</td>
<td>Ordinary Least Square</td>
</tr>
<tr>
<td>ONS</td>
<td>Office for National Statistics</td>
</tr>
<tr>
<td>OP</td>
<td>Operational Programmes</td>
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<tr>
<td>PCI</td>
<td>Passenger Card Inquiry</td>
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List of Abbreviations

RMANOVA - Repeated Measure Analysis of Variance
SIT - Special interest tourism
SOT – Survey of Overseas Travellers
TPRG - Tourism Policy Review Group
SPSS - Statistical Software for Social Sciences
TRG – Tourism Renewal Group
TSA - Tourism Satellite Accounts
TSIG - Tourism Strategy Implementation Group
UNSD - United Nations Statistics Division
UNWTO – United Nations World Tourism Organisation
VAT – Value-Added Tax
VFR – Visiting Friends and Relatives
WTO – World Trade Organisation
WTTC - World Travel and Tourism Council
CHAPTER 1: INTRODUCTION

This chapter introduces the background and the problem statement of this thesis and provides an explanation of and support for the research question. It is divided into six sections. Section 1.1 provides background information and introduces the issues related to the subject under investigation. The main problems currently facing the tourism sector will be pointed out and a case for the need for more research into data collection methods and tourist behaviour will be made. The motivation that drives the current research will be briefly discussed in section 1.2, while section 1.3 will define the main and subsidiary research objectives. A statement of significance is provided in section 1.4 and section 1.5 summarises the methodology used to achieve the thesis’ aims. The overall structure of the thesis content is outlined in section 1.6.

1.1 Background and Problem Statement

Significant economic transformations have occurred throughout the world since the 1960s, with the ever-increasing importance of the services sector becoming more and more evident and reflecting fundamental changes in the production and consumption structures of our societies. Economies tend to follow a developmental progression that involves a move away from the heavy reliance on agriculture and mining, initially towards the development of industry and finally towards a more service-based structure (Targowski, 2008). The significance of the service sector in Europe grew steadily, becoming the main driver of economic performance and the largest employment generator. According to Ganz (2005), in Europe the service industry accounts for over two thirds of employment in the region and between 60 per cent and 70 per cent of Gross Value Added. Travel and tourism are significantly benefiting from this move away from the traditional industries, and have become a vitally important part of the world economy.

The sustained growth of tourism since the early 1950s is one of the prominent features of the international economy. The importance of tourism is often defined solely through economic effects, although various other additional benefits of a social and environmental nature are also derived from tourism activities. With the continuing growth of international tourism in the last few decades there is no doubt that it is a
valuable source of income, employment and investment and an attractive source of foreign exchange earnings, contributing positively to the balance of payments. The latest research shows that tourism generates about 6 to 7 per cent of the overall number of jobs worldwide (direct and indirect) and contributes 5 per cent of global GDP (WTO, 2010). In Ireland, the international and domestic tourism sector accounts for 3.8 per cent of GNP or €5.3 billion and generates an estimated 190,000 jobs, representing a significant contribution to Irish economy (Failte Ireland, 2010).

The world economy and economic sectors are continuously evolving. Geopolitical and economic forces, driven by innovation, continuously drive new business models. In this environment we have witnessed a significant shift from mass production to customization. New trends keep emerging continuously and it is of major importance to use modern tools to measure these developments. The increasingly competitive environment led to a higher emphasis on collecting accurate customer data. In the last few years, together with the transformation of our society towards an information society, new ways of data-collection have become feasible. Beneficial factors were not only the presence of new technical tools, e.g. mobile networks, fidelity cards or the Internet, but also a higher degree of acceptance amongst people to participate in detailed surveys. Some sectors, e.g. banks or retailers, were able to build up huge databases describing their customers’ behaviour and accordingly segment their markets.

The tourism industry changed similar to the world- economy, going through significant growth, but still lacking the accurate data about customer behaviour, that has become common in other sectors. However, the continuing growth of international tourism and tourist receipts in the last decades led to an increased interest in gathering accurate tourism data (Wang et al, 2006). Statistics on tourist spending are essential since they enable planners and developers to study patterns and evaluate the general performance of the sector. Research on spending patterns help identify the main drivers of consumption behaviour in market segments (Soteriade and Arvanitis, 2006) and they assist tourism marketeers to recognize the most profitable segments.

Although data on tourism has improved considerably in recent years, the quality is still inferior to data on other sectors and concerns exist particularly about the methods used to collect data at local and national level (Latham and Edwards, 2003). Most of the
tourist expenditure data is gathered from tourists themselves after the trip has been consumed; hence one of the main issues for data users is how accurately tourists can recall their spending.

Irish tourism experienced phenomenal growth during the 1990s, being one of the most impressive success stories of that time. After fifteen years of continuous growth, Irish tourism experienced a slow down beginning in 2001. Even more, since 2006, the sector changed radically for the worst because of the hostile global and national economic climate, and it is now at a critical juncture. Significant efforts are devoted to developing strategies to ensure initially the survival of the sector and then the recovery and growth in the long run (TRG, 2009). However, this proves to be a challenging task given the current environment: competition is more and more aggressive with more destinations entering the market; consumer tastes are changing radically with tourists becoming more and more sophisticated and the credit crunch left little resources for sustaining the industry. Hence, Ireland is facing the challenge to redefine its tourism product in a way to appeal to the new tourist in an environment increasingly competitive and to develop new strategies to revive the sector. To set the right policies and pursue the most effective actions, accurate data is essential (TRG, 2009). Although Ireland is better positioned than other European countries in relation to tourism statistics and significant efforts were concentrated to improve the quality even further, some issues still exist. The use of recall-based surveys as the main method to gather expenditure data puts the accuracy of the estimates in question. In addition, tourism expenditure data is highly aggregated, hence more detailed information on spending behaviour is needed to facilitate first a better understanding of the markets, and second, a better assessment of the impact of various tourism policy initiatives.

Keeping the foregoing in mind, the current research focuses on investigating the usefulness of the diary method as a means for gathering tourism expenditure data. The purpose is to explore how the successful adoption of diaries can tackle the deficiencies of traditional methodologies for the collection of expenditure data in tourism and in addition can provide vital elements in some areas where traditional approaches fail to provide accurate data. Data provided by the diaries is expected, a priori to be more

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1 Being an island with only a small number of entry ports has a major advantage over countries with multi-access.
detailed and, more importantly, more accurate than data gathered via more traditional approaches because of the minimisation of memory decay. In addition, diaries give a temporal and geographical dimension to data, allowing for more innovative analysis such as the variation of spending over the days of the holiday and the geographical trajectory of tourist activity and expenditure. Nonetheless, the suggested advantages of diaries have often been neglected due to the supposed costs and the demands which diaries place on respondents. Exploring these issues form the central case of this work.

1.2 Research Motivation

A review of the literature on demand modelling and economic impact studies in tourism reveals a broad acceptance of the expenditure data even though there is a widespread dissatisfaction with the quality of this data. The inadequacy of tourism expenditure data has been stressed on numerous occasions, some reports going as far as stressing that one of the barriers in the acceptance of tourism as an industry is the lack of credibility of tourism statistics (Smith, 1998). To some extent, the credibility issues of tourism data arise from the poor quality of data sources, inappropriate sample sizes, the reliance on recall methods and other methodological issues affecting precision, accuracy, validity and reliability. Even if tourism was increasing in importance in the last decades, the potential economic, social and environmental contributions of this sector can only be realised if the measurement of its effect and the understanding of the tourism market is improved.

Collection of expenditure data is particularly important since it forms the basis of a wide variety of economic analyses and of future strategic marketing and management plans. While there is an impressive body of literature on the estimation of the economic impact of tourism, there is little research into the nature, collection and pre-analysis adjustments of the data used (Vaughan et al, 2000). Tourism spending estimates are based almost entirely on data reported by tourists themselves at the end of the trip. One of the main issues for data users is how accurately tourists can recall their expenditure associated with a certain trip. Previous research proved that the assumption that tourists can accurately remember all expenses occurred during their stay at the destination without any incidence of memory decay is not valid (Pearce, 1988; Frechtling, 1987, 1994; Falkner and Raybould, 1995; Zhou, 2000).
A deviation of recollected expenditure data from the actual one that is often perceived as minor could have a large impact on economic projections, leading to wrong assertions about the economic impact of the sector. For instance, if most tourists that participate in an expenditure survey make an error of 10 per cent in average daily expenditure calculations, which might be a reported expenditure of €70 instead of €76, there will be a €500 million difference for projection about the economic impact in a state where the overall economic impact is about €5 billion.

Indeed, the accuracy of expenditure estimates is crucial for computing the economic importance of the tourism sector. It is often claimed that the main reason for the tourism sector receiving poor attention from policymakers, despite its continuous fast growth, is the way in which governments collect and compile their economic results (Lickorish, 1997). However, expenditure data is not essential only for assessing the economic impact. The establishment of any strategy is highly dependent on the availability of data. Unfortunately, the range and depth of official statistics on Irish tourism is very limited compared to many other sectors (TRG, 2009). Aggregate and averaged national data simply do not meet the requirements of tourism stakeholders since these stakeholders are more interested in the expenditure habits and patterns of specific market segments and not on the aggregate expenditure figures. The aggregate figures, although necessary, are not sufficient, and accurate data and understanding of the expenditure patterns and activities of tourists during a visit are of critical importance in the tourism decision-making process.

Detailed data on tourism behaviour is crucial given the current environment with increased competition and a shift in tourist needs and wants. In a competitive context, market segmentation has evolved to be an important strategic tool for businesses to gain advantages in order to survive and grow (Cai, 1995). To set up any strategy, understanding the relationships between tourists’ consumption patterns and their demographic, socioeconomic and travel related characteristics is critical in identifying viable market segments, predicting consumer purchase behaviour and implementing segmentation strategies for targeting and positioning (Chintagunta and Gupta, 1994; Middleton, 1992; cited in Cai, 1995).
Unfortunately, little research has been conducted to facilitate the understanding of these sectoral relationships and the consequence is a lack of knowledge on what are the most profitable segments to target. While some research on the topic has been conducted in the US and Asia, there is a lack of focus on European markets. Hence, one of the goals of the current research is to investigate the relationship between expenditure patterns and different socio-demographic and trip-related characteristics of one of the vital tourist markets to Ireland: Great Britain.

To summarise, there is general consensus about the poor quality of tourism statistics and its inadequacy as a business tool since the level of detail does not suit the requirements of the decision-makers. Although the need for more accurate and more detailed tourism data has been often voiced, to date efforts are mostly focused on developing better frameworks for economic modelling and to a lesser extent on investigating new ways to collect better data. This is not sufficient considering the background of an increasing competitive environment and rapid changes in consumer needs that call for urgent strategies to prevent a further decline of the sector.

Since accurate data is essential for the formulation of appropriate strategies and most effective actions, the current research investigates a new method to gather the much-needed detailed and accurate data. Ireland is highly reliant on the British market to boost its tourism sector. However, the increased competition and the ongoing recession led to a diminution of the British market’s performance in recent years. Hence actions are needed urgently to prevent a further decline. Understanding the relationship between spending patterns and different socio-demographic and travel-related characteristics is crucial in the development of any recovering strategy since it helps identify the most profitable segments to be targeted.

1.3 Research Objectives

The goals of this thesis are two-fold. The first objective has a methodological focus and is concerned with the investigation of the applicability of the diary method as a means for collecting better tourism expenditure data to suit a multitude of user needs. The second objective is more on the practical side and involves an analysis of the spending behaviour of the British tourist market to the Shannon Region based on the data provided by the diary method.
As part of the first objective, the following discrete research goals are proposed:

- To investigate the most suitable diary format and the logistical and methodological difficulties arising from the design step to the collection of data;
- To investigate if the diary method provides the expected level of detail for facilitating the input/output modelling within the framework of the Tourism Satellite Account;
- To facilitate the analysis of the variation of consumption patterns over a holiday by providing expenditure records on a daily basis. This analysis is not available to date with data provided by the traditional approaches;
- To provide detail on the geographical consumption trajectory of visitors, which is again currently unavailable and is of vital interest to public agencies and private businesses.

The significant decline of the British market, which is the main tourist market to Ireland, calls for more research into spending behaviour. This would help tourism providers target those segments that bring the highest value. The second major goal of the current thesis is to investigate the spending behaviour of this vital market to the Shannon Region. The specific goals are as follows:

- To determine if there is a significant relationship between one or more socio-demographic and trip-related characteristics of the travel party and the level of expenditure incurred by the entire sample as well as by different cohorts like holidaymakers, business tourists and travellers visiting their friends or relatives (VFR);
- To determine if there is a significant variation on the level of spending over the days of the holiday;
- To investigate the mobility of tourists and geographical trajectory of expenditure.

In short, the current research aims to answer the following research questions:

- Is the diary method a suitable alternative to the traditional methods for data collection in the tourism sector?
Chapter 1

Introduction

• Is the diary method able to provide more precise and detailed tourism data in order to meet the requirements of a wider variety of tourism players?

• Does the data collected through the use of diaries indicate any relationship between the level of spending and different socio-demographic and trip-related characteristics?

Tourism statistics represent a key management information platform for tourism decision purposes, for overall national and regional policy formulation, targets and monitoring. This study will explore if the application of the diary method will lead to more precise and detailed data, providing a solid and reliable base for the decision making process. These data will fit both the public and private interests at a national and regional level and will enhance the credibility of the measurements of the economic importance of tourism. This research will also investigate if the application of the diary method will allow the establishment of a more clear relationship between the estimated tourism expenditure and the characteristics of the trip.

1.4 Statement of Significance

A review of the literature shows that few efforts have been devoted to investigate new ways of collecting tourism expenditure data, despite the general agreement related to its poor quality. The purpose of this research is to shed greater light on the issue of tourism data collection, by exploring how the use of the diary method may augment and improve traditional methods for the collection of expenditure data in tourism. This work introduces a new tourism research area and can bring additional benefits in the development of tourism statistics.

While expenditure diary samples have been a central part of the armoury of empirical economists for more than a century there has been relatively little use of same in tourism. More importantly, in recent times it has emerged, particularly in sociology that time diary samples are of potentially vital importance for understanding how people allocate their time to various activities. There is also evidence that other disciplines are increasingly recognizing the benefits of a diary-survey based approach to increase the understanding of all kinds of behaviour. More recently, time diaries have started to penetrate into mainstream official statistics. In fact, 20 EU states have already
conducted such studies for different purposes, with Ireland and Luxemburg being the only members not having conducted substantial time budget surveys.

It is assumed that the adoption of diaries in tourism can allow the collection of a rich array of information on the general behaviour of tourists in addition to the generic expenditure data. As such this may challenge some current mainstream thinking and allow for the development of new methods and theoretical advancement. It is anticipated that the results from this study will generate significant national and international interest in the research community and also from policymakers.

1.5 Research Methodology

Positivist ontology is the underlying paradigm of this work. The rationale behind subscribing to this research philosophy is the following: the research involves the systematic collection of observable, measurable data, which is analysed through the use of statistical methods in an attempt to develop generalisable statistical methods. Positivism is closely tied to quantitative methods, ensuring objectivity, generalisability and reliability (Zawawi, 2007). The sampling design, choice of the statistical instrument, the data collection process and the analytical techniques employed all follow the requirements of the quantitative approach.

Data has been collected via a diary-based survey. Diaries have been chosen over other traditional data collection methods on the grounds of potential higher accuracy, since the time lapsed between an expenditure occurred and the account of it is minimized, and the potential for additional innovative analysis of tourist behaviour. The survey was carried out between March 2006 and October 2007, among the British tourists arriving at Shannon Airport. Since there is no available document containing the details of all passengers arriving at the airport, a flight-based sampling frame was applied. Random sampling was considered optimal for the purpose of the study; hence every second tourist waiting for the luggage in the arrival hall has been approached\(^2\). A questionnaire with a pre-paid and pre-addressed return envelope was handed out to each tourist or travel party who qualified for participation and agreed to take part in the survey.

\(^2\) Data supplied by Shannon Airport subsequently validated the survey responses as being in accordance with macro passenger arrival data.
Following the extensive literature on designing an expenditure diary, a product-oriented approach has been adopted. The diary questionnaire was divided in two parts, the first one aiming at gathering information about socio-demographic and trip-related characteristics, while the second one was the diary itself designed to collect expenditure figures on a variety of tourism-related products and services on a daily basis. The survey instrument was pilot-tested prior to the main survey and amendments were made accordingly. A total number of 828 questionnaires were distributed during the time frame and 308 were returned, corresponding to a 37.5 per cent response rate. A total of 297 useful responses were retained for analyses.

A number of analytical techniques were applied on the data collected via the diaries. The following techniques were performed using the Statistical Package for the Social Sciences 15 (SPSS) for Windows: descriptive techniques such as frequencies, means, cross-tabulations; non-parametric techniques e.g. Kruskal-Wallis and Mann-Whitney test; computation of coefficients of variations, regression analysis and RMANOVA. Pre-conditions and assumptions necessary for the individual methods were tested prior to the analyses.

Since one of the main objectives of the current research was to investigate the applicability of the diary method as a successful data collection method for gathering tourism expenditure data, a great effort has been placed in all steps involved in the design and implementation process. Despite the multiple benefits, the diary method is not problem-free and a number of concerns voiced in the literature are addressed (see Chapter 5 for details).

1.6 Thesis Structure

This thesis is structured into eight chapters. Chapter 1 introduces the issues related to the subject under investigation. The main problems currently facing the tourism sector, along with the need for more research into data collection methods and tourist behaviour are outlined. The motivation for the current research is briefly discussed and the main and subsidiary objectives are clearly defined. A statement of significance is provided and the methodology used to accomplish the thesis goals is summarised.
Chapter 2 introduces the context for the current research. The purpose is to provide background knowledge on the policy and performance of the Irish tourism, as well as an investigation of the current state of tourism statistical system in Ireland. First, Irish tourism is placed in the context of global tourism, followed by an examination of the policy and performance between 1985 and 2008, underlying the main factors responsible for the phenomenal growth of the sector during the 1990s and issues threatening the continued success of Irish tourism since the Millennium. The chapter also includes an analysis of the tourism statistical system. The main concerns surrounding the quality of tourism statistics are discussed along with the measures taken along the time to bring significant improvements.

Chapter 3 introduces the main tourist market to Ireland, Great Britain, which is the subject of the current research. The purpose is to provide a profile of the outbound British market in general and also a profile of the British market to Ireland in particular to facilitate a better understanding of this market before embarking into further analysis. Reference is made to the transformations that have occurred, particularly in the last few years. The reasons for the apparent change in the British travel patterns and the measures taken by the respective tourism players to overcome the slow down are also discussed.

Chapter 4 addresses the literature pertaining to the topic of current research. The aim is to review the current state of tourism statistics and to identify the main areas where improvements are necessary. The chapter starts with a description of the tourism statistical system, referring to the main purposes it serves, the main players and the users. The main criticism in the literature surrounding the reliability of tourism data and the main methods employed to gather tourism expenditure data along with their associated benefits and drawbacks will be described. The diary method is introduced as a potentially more accurate alternative to the conventional methods. This method has been successfully applied in studies in different areas of research. A review of these studies will be provided, drawing upon evidence related to the main findings to date. This chapter should provide the reader with enough detail to gain a good understanding of how data is collected and processed in the tourism sector, which are the main issues surrounding tourism statistics and how the quality can be improved, and to judge the necessity of the current research.
Chapter 1

Introduction

Chapter 5 reviews the methodology employed to address the research question and examines the usefulness of the research method as an alternative for collecting tourist expenditure data. This chapter describes the underpinning philosophy, outlines the process and the method used and summarises the main statistical techniques adopted for analysing the data. First, the research is placed within the ontological position; second the method employed for data collection is discussed with a focus on the reasons for choosing it over other methods. Subsequently, the process of data collection will be described in detail and a critical evaluation of the diary method will be provided. Finally the approaches taken to analyze the data are discussed. This chapter should give the reader detailed and sufficient information in order to assess the reliability and validity of the research method used.

Chapter 6 comprises the core empirical section of the thesis and marks the first step in achieving the second, practical goal of the research by providing a detailed examination of the spending behaviour of British tourist market to the Shannon Region. The aim is to develop a model for travel expenditure based on socio-demographic and trip-related characteristics to identify the most important factors affecting the level of spending of the British tourist market to the Shannon Region in general and of other tourist cohorts (e.g. holidaymakers, business tourists and VFR) in particular.

Chapter 7 illustrates one of the most innovative features of the diary method, i.e. the ability to deduce precise temporal and geographical trajectories of expenditure. The chapter is divided in two parts: the first part aims to investigate the variations in the level of spending over the days of the trip, while the second one involves an examination of the geographic mobility of British tourists in Ireland and provides an analysis of the expenditure associated with every location visited.

Chapter 8 concludes the thesis by summarising the main findings and implications. Limitations of the thesis and avenues for further research are also discussed.
CHAPTER 2: IRISH TOURISM PERFORMANCE AND THE IRISH TOURISM STATISTICAL SYSTEM

2.1 Introduction

The previous chapter identified the main objectives of the current research under two main focus areas: 1) on the methodological side the research aims to investigate the applicability of the diary method for the collection of tourism expenditure data; and 2) on the practical side the purpose is to provide an in-depth analysis of the spending behaviour of the British tourism market to the Shannon Region. The Shannon Region has been chosen for the case-study due to the convenient location and the access granted by the Airport Authorities to carry on the survey. The main objective was to investigate the usefulness of the diary approach in providing new insights into tourist behaviour. The current chapter focuses on presenting the contextual background for the current research. First an analysis of the Irish tourism policy and performance will be provided, followed by an examination of the Irish tourism statistical system.

After years of strong growth, the world economy is currently facing a period of significant economic downturn of historic magnitude, considered by some to be the deepest crisis since the Great Depression of the 1930s. Factors such as the credit crunch, the amplifying financial crisis, the rise of commodity and oil prices and the massive exchange rate fluctuations have led to erosion in both business and customer confidence, contributing in this way to the current global recession (UNWTO, 2009). Despite all the rescue efforts and stimulus packages, many countries across the globe, irrespective of their level of development, are still struggling to overcome the crisis. The unemployment rates continue to rise, the growth rate expectations are still pessimistic and many businesses face the increasing threat of bankruptcy. Unfortunately, the recovery is forecasted to be weak and fragile and the negative economic and social consequences will be long-lasting (OECD, 2009).
Until recently, tourism was one of the fastest growing service industries in the world and proved to be more resilient to economic uncertainty and volatility than other sectors. With over 7 million tourists travelling internationally each day in 2007 and 70 million travelling domestically each day, travel and tourism became a natural part of our lives (Mendirata, 2009). However, despite its resilience in the post war era, in the face of the current economic downturn, tourism faces major challenges. Starting in mid 2008, the sector began to suffer from reduced consumer demand on both business and leisure segments and tourism business (UNWTO, 2009). In the second half of 2008, the rate of international tourist arrivals at global level was lower by 1.25 per cent on average compared to 2007, while at the European level the decline was as high as 2.5 per cent (UNWTO, 2009). The economic downturn has exacerbated consumer trends in tourism that have been apparent for some time. Last minute bookings are becoming more popular (since they offer a far better value for money); business travellers switch from business to economy class flights or even worse business trips turn into teleconferences. Budget hotels become more and more popular and “all inclusive” offers are booming because tourists are more interested now then before on the total cost of the trip.

Ireland is one of the most open economies in Europe with international trade being the life-blood of its prosperity (OECD, 2004). The performance of the Irish economy has been spectacular since the late 1980s (Deegan, 2006), evolving from the “Poorest of the Rich” to “Europe’s shining light” as labelled by The Economist magazine. Real GDP growth has been one of the strongest in the EU over the last decade, with an average growth rate of 7.2 per cent between 1997 and 2007. However, despite the buoyant performance in the past years, the current financial crisis is affecting the Irish economy more severely than many other countries, Ireland being the first country in the EU to officially enter a recession (CSO, 2009).

“Irish tourism has been a major success story – perhaps the most successful sector of Irish-owned enterprise since the foundation of the State. It is a major source of foreign earnings with low import content. It is a powerful instrument of national and regional development” (OECD, 2004, p.2). During the 1990s, Ireland experienced a boom as a tourism destination. With the number of international visits more than doubling and the revenue in real terms growing by almost 100 per cent. Resultantly, Irish tourism out-
performed the rest of Europe and constantly increased its share of world tourist arrivals. While part of the significant tourism growth can be attributed to the generally favourable market environment, Ireland’s out-performance was actually driven by a number of key competitive factors such as comparatively low cost and low inflation business environment, improved access, more resources allocated for destination marketing and substantial and private sector investment (ITIC, 2007).

Unfortunately, the 1990’s boom came to its end in 2001, when a succession of negative exogenous factors\(^3\) compounded by some emerging internal factors\(^4\) led to a turn around in tourism performance. Despite the recovery registered during the 2004-2006 period, new factors threatening the success of Irish tourism emerged. A shift in demand trends and the increased competition from other destinations coupled with a diminution of a number of competitive advantages led to a situation where Irish tourism faced a critical point in its development (ITIC, 2007).

This section comprises an analysis of the Irish tourism industry. First, Irish tourism will be placed in the general context of global tourism. A short history of the development of tourism in Ireland will then be provided and its significance for the Irish economy will be discussed. Since one of the focus areas of the current research is on tourism statistics, a description of the tourism statistical system in Ireland will be presented.

2.2 Tourism at The Global Level

As Theobald (2005, p.ix) states, “tourism is one of the most remarkable success stories of modern times”. Considered the most significant economic and social phenomenon of the 20\(^{th}\) century and most likely of the 21\(^{st}\) century too (WTO, 2002), the tourism sector has grown steadily in the past decades in terms of the generated income and the number of people who travel abroad. Starting from a relatively low base of 25 million worldwide arrivals in 1950, the global tourist numbers grew at an exceptional rate in the subsequent years, reaching an impressive figure of 903 million arrivals in 2007 (UNWTO, 2008). Tourism proved to be resilient in times of economic crisis and despite some uncertainties caused by terrorist threats, natural disasters or unexpected illnesses.

\(^3\) e.g. the foot-and-mouth disease, the 9/11 terrorist attacks and SARS
\(^4\) e.g. home grown – wage increases and poor regulation caused prices to rise faster in Ireland than in competitor countries
(Theobald, 2005), it grew in terms of global arrivals at an annual average rate of over 4 per cent since 1995.

Experiencing continued growth and diversification, tourism became one of the major international trade categories, ranking fourth just after fuels, chemicals and automotive products in terms of generated export income. According to UNWTO estimates, the overall export income generated by tourists at a global level grew at a significant rate (even outgrowing the world economy), exceeding US$ 1 trillion in 2007. Although the recent evolution of tourism has been irregular due to unfavourable general economic climate, UNWTO maintains the long-term forecast. According to UNWTO projections, international tourists will number 1.6 billion by the year 2020, spending a total of US$2 trillion on a yearly basis (UNWTO, 2009).

According to UNWTO (2008), there has been a dramatic change in the pattern of global economic growth, in the last few years, with a greater emphasis on international trade, to the benefit of international tourism. This trend together with a shift in terms of trade in favour of commodity producers is reflected in the regional trends in tourism growth (UNWTO, 2008b). Page (2008) pointed out the recent patterns of arrivals for 2000 – 2007 as follows:

- Western European destinations are dominant in terms of international arrivals accounting for 54 per cent of all arrivals;
- Despite some difficulties encountered as a consequence of natural disasters e.g. tsunami and illness threats e.g. SARS, Asia and the Pacific including the growing economies of Singapore, Thailand, South Korea, Taiwan and China, are becoming stronger in terms of visitor arrivals at the global scale, accounting for 20 per cent of arrivals in 2007;
- France, Spain, the USA, China, Italy, UK and Germany were the top destinations worldwide in terms of arrivals in 2007.

Table 2.1 summarises the international tourist arrivals by region of arrival from 1990 to 2010. The shift from the traditional destinations to the new developing markets is evident: new destinations are steadily increasing their market shares while more mature markets like Europe or the US exhibit less dynamic growth. While still registering
growth compared with previous years, Europe’s arrivals increased at a much slower rate (3.2 per cent in 2010) compared with the increases registered in Asia and the Pacific region and the Middle East, which grew by 12.6 per cent and 13.9 per cent, respectively in 2010 (UNWTO, 2011).

*Table 2-1: International tourist arrival by region*

<table>
<thead>
<tr>
<th>Region</th>
<th>International Tourist Arrivals (millions)</th>
<th>Market share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>15.0</td>
<td>20.1</td>
</tr>
<tr>
<td>Americas</td>
<td>92.9</td>
<td>109.0</td>
</tr>
<tr>
<td>Asia &amp; The Pacific</td>
<td>57.8</td>
<td>85.5</td>
</tr>
<tr>
<td>Europe</td>
<td>282.7</td>
<td>324.7</td>
</tr>
<tr>
<td>Middle East</td>
<td>9.0</td>
<td>13.1</td>
</tr>
<tr>
<td>World</td>
<td>457.4</td>
<td>552.3</td>
</tr>
</tbody>
</table>

Source: UNWTO (2011)

The figures indicate that although Europe and the US continue to be the leaders, their market share of global arrivals significantly dropped. In contrast, Asia and The Pacific show excellent performances driven by the emergence of China and India as leading destinations and generating countries (Freitag and Pyka, 2008). Since 1990, Europe’s world share of the market has declined by 11.4 per cent, while Asia and The Pacific grew by 9.2 per cent, accounting for over 20 per cent of the global arrivals in 2010. According to UNWTO estimates published in “Tourism 2020 Vision” in 2000, this trend will continue, with Europe’s share expected to decrease to 46 per cent by 2020 due to the increasing level of destination competition outside the region. Although most of the exchange of tourists is still concentrated in industrialized countries, there is an increased competition from new emerging and developing countries which have plentiful resources to offer and many tourism services are produced at a low cost giving a competitive advantage (OECD, 2008).

Research conducted by IPK International, Freitag and Pyka (2008) identified four main drivers of global tourism growth in the last decades: 1) the increased disposable

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5 However, if current trends continue, this forecast may need to be amended.
incomes of consumers that stimulates demand; 2) a decrease of prices for tourism services as a consequence of the higher spread of low-cost flight and accommodation offers; 3) continuous development of technology, especially the increase of internet usage that facilitates online bookings around the globe; 4) the increase in demand from Asian countries especially South Korea, China and India accompanied by increased demand from some European countries e.g. Spain and France and many counties in Latin America. In this climate, a change in tourists’ behaviour also occurred. While in the stage of mass tourism that began in the 1950s onwards, the demand for tourism was dominated by vacation packages, a new attitude of “wait and see”, resulting in late individual bookings\textsuperscript{6}, evolved in the last decade. Travel is organized individually instead of organised trips. Tourists show higher sensitivity to price and travel closer to home, to familiar destinations (Cabrini, 2004). Short and more frequent trips become more popular with an increased interest in city breaks. As Failte Ireland (2005) indicates, tourists seek more tailored and flexible holiday packages, in a search for cultural and heritage activities. The trend of “back to basic” results in tourists’ preferences for more simple holidays e.g. from hotel to bungalow, from caravan to tent (Bos, 2005).

Although various benefits and costs of a social and environmental nature may be derived from tourism activities, it is the economic impacts that provide the main driving force for tourism development (Cooper et al, 2008, Lee et al, 1996). Despite being neglected for quite a long period of time, tourism slowly became a strategic sector of many national economies. Tourism is perceived nowadays as an important foreign revenue and employment generator, helping overcome poverty and economic development in the less developed countries where few developmental options are available. The estimated economic contribution of tourism has significantly increased, tourism related exports making a considerable contribution to the balance of services (OECD, 2008). Realising 1) the high potential of tourism to generate foreign exchange, 2) its labour-intensive nature and 3) the high capacity to generate growth in otherwise disadvantaged areas, coupled with 4) a higher resilience in periods of crises (Fletcher and Latham 1995), governments in many countries began to allocate more and more resources to tourism development (Lee, 1996).

\textsuperscript{6} These trends were facilitated by new developments in IT and the arrival of low cost carriers.
According to figures provided by the OECD, tourism accounts for between 2 and 12 per cent of GNP and between 3 and 11 per cent of employment in the OECD countries. In many countries tourism has already surpassed, in economic importance other traditional sectors like agriculture, attracting greater political attention. Ireland has a comparatively small but distinctive tourism industry, receiving approximately 0.6 per cent of all world tourism arrivals. The number of international visits to Ireland reached 8 million in 2007 and was estimated to have generated €4.9 billion in foreign exchange, representing 3.7 per cent of GNP. Unfortunately, since 2007 the number of international arrivals to Ireland declined by as much as 25 per cent, reaching just over 6 million arrivals in 2010. According to the data provided by UNWTO, Irish tourism’s share of global arrivals increased from 0.8 per cent in 1985 to 0.9 per cent in 1999. Following the peak in 1999, the market share remained almost constant until 2007, but significantly dropped in the following years, reaching 0.6 per cent in 2010.

Despite the impressive growth registered in the last 50 years and the optimistic projections made by WTO (2007), tourism is currently confronted with difficulties generated by the general unfavourable economic climate caused by the global financial crisis. Although tourism has traditionally proved to be more resilient to economic uncertainty and volatility than other sectors, it has not been immune. Past experiences show that people will continue to travel but in the current economic malaise it may be possible that a structural change in demand may continue to affect the sector. The figures for 2009 compiled by UNWTO (2009) indicate that international tourism demand has deteriorated under the impact of the global economic recession, with international tourist arrivals declining 4 per cent compared with 2008. Fortunately, the preliminary figures for 2010 indicate a strong recovery, international tourist arrivals being up by almost 7 per cent to 935 million. According to UNWTO (2011), although all regions posted positive growth, emerging economies were the main drivers of this recovery.

2.3 Irish Tourism Performance and Policy

In Ireland, tourism is an important sector in terms of economic impact and employment generation. As a small open economy the Balance of Payments from international tourism is particularly important. The significant importance of the foreign receipts
generated by international visitors was clearly pointed out in a report prepared by the National Tourism Policy Review Group (NTPRG) (OECD, 2004) which highlighted that the total tourism receipts registered in 2002 was equivalent to 50 per cent of the total value of exports by Irish-owned manufacturing industry and twice the value of exports of Irish-owned internationally-traded services. International arrivals to Ireland grew more than four times between 1985 and 2007, from just under 2 million visitors to 8 million. Earnings during the same time period exhibited even better performance, growing from less than € 1 billion to almost € 5 billion (Failte Ireland, 2008). Unfortunately, the period between 2008 and 2010 witnessed a significant decline in both international arrivals and foreign revenue, Ireland welcoming around 6 million tourists who spent € 3.4 billion in 20107, the lowest level since 2000.

Despite facing a challenging external environment in the last few years, the Irish tourism sector continued to make a very strong contribution to the Irish economy. According to ITIC (2009), Irish tourism contributes more than 7 per cent to services exports each year and accounts for € 1 in every 20 spent on goods and services in Ireland. The tourism sector also contributes nearly € 3 billion per annum in tax revenue to the Exchequer through expenditure on tourism-related goods and services and income tax earned from tourism-related jobs. Tourism contributes to a more balanced spread of economic activity across regions, especially in areas with few alternative economic opportunities and is a major source of employment in a number of key regions (ITIC, 2009).

An analysis of the policy and performance of Irish tourism reveals three main phases in the development of the sector. First, the period prior 1985 was characterized by a rather modest performance and a relative neglect by policymakers. Beginning with 1986, Irish tourism witnessed a dramatic turnaround and experienced continuous growth for the next 14 years. It was the time when the Government became more and more aware of the potential of tourism as a foreign exchange and employment generator and started to actively participate in the development of the sector. Unfortunately, the boom came to an end in 2001 when a number of internal and external factors led to a slowdown of tourism growth. The next section evaluates the period of boom and eventually slowdown in Irish tourism in the period from 1985 to 2009.

7 The figures for 2010 represent preliminary estimates
2.3.1 Policy and Performance from 1985 to 2000

The period following Irish political independence in 1922 was marked by a lack of fundamental change to the economic environment, Ireland continued to be mostly an agricultural economy (Deegan, 2006). Hence, the tourism sector was a low priority for Government. The low interest was clearly illustrated by the insignificant expenditure allocated to tourism in the First Programme for Economic Expansion\(^8\) initiated in 1958, tourism benefiting by as little as IR 1.21m out of the IR 297m available (Deegan and Dineen, 1997). While the overall programme proved to be a success, the services sector was severely neglected, and unfortunately, this attitude continued for many years. It was not until the late 1980s that tourism gained more prominence as a result of the relative failure of manufacturing industry to generate sufficient employment and improved economic welfare (Deegan, 2006).

2.3.1.1 Tourism Policy Between 1985 and 2000

The general economic climate at the beginning of 1980s was rather hostile for Ireland. The country was confronted with a serious unemployment problem and a significant debt to GNP ratio which culminated in 1987 at 129 per cent (Deegan and Dineen, 2000). It was the time when the failure of other economic sectors, coupled with the recognition of the potential of tourism sector to generate employment, left the Government with the alternative to switch the focus to assisting tourism development. Essentially, it was the failure of other sectors that stimulated interest in tourism, principally because of the sector’s high employment potential. The first sign of the increased interest in tourism is the publication of the “White Paper on Tourism Policy” in 1985 (The Stationery Office, 1985), which according to Deegan and Dineen (2000, p.164) could actually be seen as the “first articulation of government policy for tourism for almost 50 years”. A number of objectives were formulated through the White paper and gave rise to a response from the key industry representative groups. Consequently, ambitious targets were set for the sector that were subsequently adopted by the government (NTPRG, 2004).

\(^8\) The First Programme for Economic Expansion was adopted as government policy and involved a move away from protectionist policies. The programme run from 1959 to 1964 and allowed for the spending of IRL £ 220 million of state capital in investing in an integrated system of national development. At the end, the programme went far beyond the anticipated expenditure, higher spending occurring in the case of transport, agriculture, fuel and power, and telephones. On the opposite side, fisheries and tourism fell below the projected amounts (Deegan, 2006).
Beginning in the late 1980s, the prime objective(s) of national tourism policy were clearly articulated in a number of successive national partnership development plans, and within the EU Community Support Framework for Ireland. Despite the lack of recognition of tourism before 1980, starting with the early 1980s, the European Commission began to recognize the important role tourism plays in the European economy and became increasingly involved in the development of the sector. Tourism projects in Ireland received funding from the European Community under the European Regional Development Fund (ERDF), a structural fund established in 1975. Classified as an Objective One Region (“Promoting the development and structural adjustment of regions whose development is lagging behind”), Ireland received only as little as 2.4 per cent of the overall tourism grants, with most of the funds (80 per cent of the 2.4 per cent) being allocated during 1988 (all countries part of the Objective One region took little advantage of the ERDF structural funds, while countries like UK and Italy got the greatest advantage with 54.1per cent and 19per cent respectively).

Starting with 1989 there was a greater emphasis on the tourism industry, mainly due to a change in official government policy, which led to the establishment of tourism targets and investment plans (Pearce, 1992). Given the opportunity of available European funds for tourism development, the Irish Government developed an Operational Programme for Tourism (Dept. of Tourism and Transport, 1989 cited in Deegan and Dineen, 2000). According to Volkman and Guydosh (2001), the First Operational Programme for 1989-93 created very specific target goals acknowledging the role of tourism in the Irish economy. Tourism’s share of the GNP increased from 5.8 per cent to 7 per cent in the period 1989-1993. As Irish tourism was low in import content (with most of the receipts staying mainly within the Irish economy), one of the programme aims included doubling the number of overseas visitors. The Irish tourism industry successfully accomplished this goal (IBB cited in Volkman and Guydosh, 2001). The result of an input-output analysis conducted by Henry and Deane (1995) revealed an increase of 52 per cent in international tourism receipts to GNP (from IR £1,337 million in 1990 to IR £2,032 million in 1994).

Following the success registered by the First Operational Programme, the European Commission approved a second OP lasting from 1994 to 1999, which aimed to optimise tourism development by means of assistance for both private and public sectors. As a
consequence, 57 per cent (456,000 EUR million) of tourism investment in the period covered by the programme derived from EC contributions (77.63 per cent ERDF, 22.37 per cent from the European Social Fund) while the remaining 43 per cent (350,000 EUR million) originated from Irish government and private sector.

The implementation of the second OP was realised through five sub-programmes that aimed to address the following issues (European Commission, 2007):

- Continued development of the natural and cultural heritage;
- Support for tourist-oriented arts activities;
- Implementation of at least four large scale projects intended to boost the tourist industry in terms of volume, revenue and impact on the economy;
- Increased support for marketing in general and in particular support for developing of off-season international tourist events;
- Development of training in the field of tourism;
- Technical assistance measures.

As stipulated in the Final Report “ERDF Funded Activities” (DAST, 2003), the maximisation of the tourism potential by increasing revenue and creating new employment was the key objective of Ireland’s strategy for tourism over the period of 1994-1999. In line with this strategy a number of targets to be achieved over the programming period were established to:

- increase tourism revenue by 65 per cent to IR £ 2.25 billion;
- create an extra 35,000 full-time jobs;
- extend the off –pick tourism season and improve the quality of the service in tourism by providing high quality training programmes (Dept of Arts, Sport and Tourism, 2003).

The operational programme proved to be a success, its implementation together with other factors leading to an unprecedented tourism growth. Two out of the three main targets had been surpassed ahead of the programme end. Table 2.2 emphasizes the key targets for the Programme and the actual figures at the end.
Table 2-2: Second Operational Programme - Targets and Actual Figures

<table>
<thead>
<tr>
<th></th>
<th>1994 Actual</th>
<th>1999 Target</th>
<th>1999 Actual</th>
<th>Actual vs Target (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Revenue (MEUR)</td>
<td>1,902</td>
<td>2,783</td>
<td>3,115</td>
<td>+11.9</td>
</tr>
<tr>
<td>Job equivalents (‘000)</td>
<td>98</td>
<td>123</td>
<td>138</td>
<td>+12.2</td>
</tr>
<tr>
<td>Seasonality*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td>29</td>
<td>25</td>
<td>28</td>
<td>+12.0</td>
</tr>
<tr>
<td>Shoulder</td>
<td>30</td>
<td>34</td>
<td>29</td>
<td>-14.7</td>
</tr>
<tr>
<td>Off Peak</td>
<td>41</td>
<td>41</td>
<td>43</td>
<td>+4.9</td>
</tr>
</tbody>
</table>

*Number of international tourists as per cent of Annual Total

Two of the key targets were surpassed at the end of the programme, tourism becoming one of the fastest growing industries in Ireland. In terms of foreign revenue, the programme aimed to increase the international receipts from € 1,691 m in 1993 to € 2,783 m in 1999. A higher number of overseas tourists led to the target being exceeded by 12 per cent. Employment creation was another prime objective under the Operational programme with a target of 123,000 full-time tourism related jobs to be achieved by 1999. The target was surpassed by 12.2 per cent. The third target, seasonality, was only partially achieved, the number of overseas tourists visiting Ireland during the shoulder season failing to meet the expectation. The purpose was to stimulate an increase in the proportion of international tourist arrivals during the shoulder and off-peak seasons, in a desire to concentrate 75 per cent of the annual overseas arrivals outside the peak period. The target was not met, the peak season arrivals increasing to the detriment of shoulder period.

2.3.1.2 Tourism Performance Between 1985 and 2000

Between the late 1950s and the early 1980s, a period when mass tourism was the dominant force in international tourism, Ireland, with unfavourable climatic conditions (necessary for the mass phenomenon), coupled with the government’s neglect of the sector, was not a significant tourism destination (Gorokhovsky, 2003). The growth rate of international arrivals was among the lowest in Europe during the 1970s (Williams and Gillmore, 1995 cited in Gorokhovsky, 2003). Between 1980 and 1985 Irish tourism experienced a modest performance with an almost constant number of overseas arrivals. According to Deegan and Dineen (2003), an evaluation of Irish tourism indicated that
Ireland was an expensive destination considering 1) the regulatory conditions in general and those related to air access in particular and 2) the high taxation environment. In addition, the poor development of tourism product and infrastructure made Ireland rather unattractive to many tourists other than those with ethnic links or those seeking rest and relaxation. (Deegan and Dineen, 2003).

However, starting with the mid 1980s, Ireland’s tourism performance witnessed a dramatic turnaround, the numbers of international arrivals to Ireland continuously increasing year on year to 2000. Graph 2.1 outlines the growth phase.

**Graph 2-1: Tourists Numbers between 1985 and 2000**

Graph 2.1 shows that Ireland experienced a significant growth in tourist numbers from all source markets during the period 1985 – 2000. Beginning in the latter 1980s, Ireland experienced a dramatic change in macroeconomic performance that benefited tourism. Tourism evolved from a relatively stagnant sector, marked by a modest average increase of 2.5 per cent (on an annual basis between 1980 and 1985) to one of high importance for job creation and foreign revenue generation. From 1985 to 1990 the average annual growth rate was 4.4 per cent. Following 1990, the performance was even more impressive with an average annual growth rate of 6.9 per cent between 1990 and 1995, followed by a remarkable average increase of 8.2 per cent between 1995 and 2000. The total number of overseas tourists grew during the period by as much as 230 per cent. The most impressive growth was experienced from Mainland Europe, which actually replaced the North American market as the secondary source of arrivals. Despite the significant increase in the number of arrivals during the period under consideration, the market share of North America declined from 21 per cent in 1985 to
16 per cent in 2000. In contrast, the European market share increased from 17 per cent to 23 per cent over the same time period, while British arrivals were remarkably constant at around 57 per cent of total overseas tourists. An important feature of the period was the replacement of a relatively small number of high spending Americans with large volumes of poorer spending Europeans. Additionally, the relative dependence on the low spending British market continued, albeit with a greater number of arrivals. This dependence on the British market, as we shall see, turned out to be a double-edged sword in more recent years.

The revenue generated by tourists during their visit can be considered as one of the most important indicators of tourism performance since it forms the basis for calculating the contribution of the sector to the economy. Graph 2.2 illustrates the growth in tourist revenue, according to the source markets, from 1985 to 2000.

Graph 2.2: Overseas Revenue 1985 - 2000

Graph 2.2 shows that the revenue (excluding carrier fares) from all source markets significantly increased during the period 1985 – 2000. Between 1985 and 1990, the expenditure increased at a higher annual average rate than international arrivals (7.5 per cent as compared with 4.4 per cent for arrivals). The period 1995 - 2000 witnessed the largest average annual growth rates, the foreign receipts increasing, in real terms, on average by 8.5 per cent. A notable feature is the phenomenal growth of revenue from Mainland Europe, the increase in nominal terms over the period being as high as 573 per cent.
2.3.1.3 Factors Responsible for The Success of Irish Tourism

Considerable investment in tourism in general and in tourism product, marketing and training in particular, was made between 1989 and 1999 under the two Operational Programmes (OP). However, despite the acknowledged success of the programmes, the contribution to the tourism success during the same period is debatable (Ward, 2006). According to the findings of a study conducted by Fitzpatrick and Associates in 1997, the growth rates registered by Irish tourism during 1990s were far superior to those experienced by competitor markets, which also benefited from the EU funds. In an analysis of Irish tourism developments from 1980 to 1996, Deegan and Dineen (2000) pointed out that Irish tourism experienced higher growth rates in the period preceding the second OP. In addition, as Honohan (1997 cited in Ward, 2006) stressed, the majority of the growth in tourism during 1990s was registered in Dublin, where very little investment from the OPs was made. Thus, it can be safely assumed that the success of the tourism industry in the late 1980s and throughout the 1990s can be attributed to a number of other factors in addition to the operational programmes.

Nevin (1995) pointed out that one of the factors that significantly contributed to the dramatic improvement in the performance of Irish tourism was the greater political commitment. Beginning in the mid-1980s, the Government adopted policies that recognised the economic importance of tourism and were designed to foster it. Improved international access, particularly air access was a vital factor that stimulated the growth of tourist influx to the island (Deegan and Dineen, 2000, Nevin, 1995). The liberalization of air routes led to the entry of new operators e.g. Ryanair, offering a wider choice of routes and lower fare as a consequence of increased competition.\(^9\) The impact of Ryanair’s entry into the market was dramatic, the number of passengers on the Dublin – London route increasing 65 per cent between 1985 and 1987 (Burnham, 2003).

Price competitiveness due to good macroeconomic management from late 1987 to 1999 also enabled the improved tourism performance (Deegan, 2006; Nevin, 1995). The reduction in VAT rates for tourism services enabled businesses operating within the sector to reduce prices and improve margins, leading in this way to higher investments.

in product quality (Nevin, 1995). The lower prices for tourism services as a result of a lower VAT rate, helped to transform the perception among visitors of the value for money offered by Ireland as a holiday destination. According to Nevin, the proportion of tourists perceiving Ireland as either “good” or “very good” value for money doubled from 29 per cent in 1986 to 60 per cent in 1990.

Finally, the change in the general tourism trend, which led to a move away from mass packaged holidays in favour of more specialised holidays with an increased interest on cultural and heritage activities, also highly benefitted Irish tourism. Ireland increased in popularity as a tourism destination by offering those tourist products which became increasingly attractive e.g. opportunities for “green” and rural tourism, as well as cultural tourism (Gorokhovsky, 2003). Other factors such as the success of Irish films, the renaissance of Irish music (Riverdance) also significantly helped to make Ireland fashionable during the late 1980s and 1990s.

2.3.2 Irish Tourism Policy and Performance 2001 – 2010

2.3.2.1 Tourism Policy Between 2001 and 2010

Tourism policy during 2000 – 2010 changed in several ways and the institutional changes initiated in the previous years led to the division of Bord Failte into two separate bodies. The first, named Tourism Ireland was established as a result of the 1998 Good Friday Belfast Accord between the Republic of Ireland, North Ireland and Great Britain. Incorporated in 2000, Tourism Ireland took over responsibility for the overseas marketing of the Island of Ireland as a tourist destination (TPRG, 2003). Subsequently, a new National Tourism Development Authority (the merger of Bord Failte and the training agency for tourism-CERT) – Failte Ireland was established by legislation in 2003. The mission of the new agency was to foster sustainable and competitive tourism development. According to the OECD (2004), Failte Ireland has responsibility for supporting the tourism industry in six main areas: 1) product development; 2) marketing of domestic tourism; 3) training and education; 4) research and strategic planning; 5) niche/specialist product marketing and promotions; and 6) implementation of special initiatives to attract international sports events to Ireland and to support the marketing of festivals and cultural events.
Tourism policy and targets for 2000 – 2006 period were detailed in two major programmes: the National Development Plan for 2000 – 2006 and The Tourism Product Development Scheme 2000 – 2006. According to the Department of Arts, Sport and Tourism (2004), the National Development Plan 2000 – 2006 (NDP) shifted the prime tourism policy objective from job creation to sustained foreign exchange earnings. Priority was allocated to sustainable and spatially balanced development, aiming to ensure the benefits would be distributed throughout the country while alleviating any negative environmental impacts. The NDP included provision for the first ever multi-annual Tourism Marketing Fund, with a budget of EUR 190 million over the period of the plan.

The Tourism Product Development Scheme 2000 – 2006 was funded under two Regional Operational Programmes and was established with a total of EUR 130 million, including EUR 55 million in EU funding. The core objective was to support a range of new product developments, outside the established tourism destinations, with a focus on regional spread, cluster development, specialist niche market products and environmental sustainability.

In 2002, the Tourism Policy Review Group (TPRG) appointed by Minister for Arts, Sport and Tourism published a report containing a long-term (2003 – 2012) strategic plan for tourism sector. The report, named “New Horizons for Irish Tourism” highlighted the importance of the sector for the Irish economy as a job creator and foreign revenue generator, accounting for one in 12 jobs, 4 billion in exports and over 2 billion in tax revenue each year. The Report set out a detailed plan of specific actions, based on a detailed process of consultation and review, which formed the basis for subsequent tourism policy at Government and agency level. The Review Group set challenging targets for growth over the next decade, including doubling overseas visitor spending from 3 billion to 6 billion with an associated increase in visitor numbers from just under 6 million to 10 million by 2012.

The Tourism Strategy Implementation Group (TSIG) was set up in 2006 to advise on the implementation of the outstanding recommendations contained in the New Horizons report and recommended a framework for a mid-term review. The report concluded that the change in focus away from jobs arose because Ireland was close to full employment at that time.
the increased Government commitment to tourism and the active partnership between public bodies and the tourism sector ensured good progress on tourism development (DAST, 2008). The report also contained a review of tourism performance up to 2006 against the targets set in New Horizons using 2002 as a baseline. The overall performance was considered satisfactory despite some weaknesses such as loss of price competitiveness, weaker growth from traditional higher-spending source markets and a weaker performance in leisure segments, thatch led to revenue figures being below target. However, a strong increase in visitor numbers and exceptional growth in domestic demand partially concealed the underlying weaknesses\textsuperscript{11}.

Since 2006, Irish tourism changed radically due to the hostile global and domestic economic climate and is now at a critical stage. As a consequence of the changing environment, a high level Group (The Tourism Renewal Group - TRG) was established at the end of 2008 to renew the strategic framework for Irish tourism development set out previously in the “New Horizons for Irish Tourism”. The purpose was to examine policy and programme priorities, actions and targets in light of the new challenges facing the tourism sector and to set out a framework for action to assist in the future development of tourism sector. The action plan comprised two frameworks. The first one, the framework for survival, recommends urgent actions for 2009 and 2010 to ensure the survival of the sector and to minimize the potential damage caused by current challenges. The focus of these actions is on “supporting and strengthening sustainable consumer demand, mitigating the impact of global economic trends, enhancing cost competitiveness and easing cost and financing pressures on viable tourism businesses” (TRG, 2009, p.vi). Following the survival measures, a framework for recovery and growth is suggested to set Irish tourism back on a growth path from 2011. The focus of this set of actions is to enhance Ireland’s attractiveness, building on gains in cost competitiveness and assuring that future opportunities for growth are identified and exploited. Unfortunately, despite all the efforts, the anticipated recovery in Irish Tourism did not materialise in 2010, the general unfavourable economic climate leading to a further decline (ITIC, 2010).

\textsuperscript{11} Total number of overseas visitors to Ireland in 2006 was 5.3 per cent ahead of target. Numbers from Great Britain fell short of target by 6.2 per cent. Despite an increase in real terms by over 9.5 per cent to 2006, revenue was 11.8 per cent below target. Domestic tourism experienced growth in both numbers and revenue, exceeding the target by significant margins.
The Tourism Renewal Group also pointed out the need to improve the quality and range of statistics on tourism, stressing that tourism must be a priority sector for the Central Statistical Office working in partnership with the tourism agencies and academic institutions (TRG, 2009). At the time of writing there has been no formal response from Government to the recommendations.

2.3.2.2 Tourism Performance Between 2001 and 2010

Following fifteen years of phenomenal growth the Irish tourism boom came to an end in 2001, when the confluence of a number of internal and external factors resulted in a significant decline in tourism performance. The outbreak of Foot and Mouth disease coupled with the fear generated by the 9/11 terrorists attacks and the global economic slowdown led to a decline of at least 7 per cent in visitors arrivals, as well as a decrease in earnings of € 317 million in 2001. Despite a recovery experienced during the 2005 - 2007 period, the current global crisis has put the sector under increased pressure. Graph 2.3 shows the overseas arrivals from 2001 to 2010.

Graph 2-3: Number of Overseas Visitors 2001 -2010

![Graph 2-3](source: CSO)

Graph 2.3 illustrates a rather modest performance in terms of tourist visits from most generating markets over the period 2001 - 2010. The total number of overseas visits grew during the time frame period with a modest average annual rate of 0.9 per cent compared with the 8.3 per cent registered between 1985 and 2000. The lowest performers were Britain and North America. The number of British tourists visiting Ireland was 21 per cent lower than in 2001, while the number of tourists from North America grew by as little as 2.6 per cent. In contrast, Ireland experienced sustained
growth from Mainland Europe, the number of visits increasing with an average annual rate of 4.7 per cent. From 2008 to 2010, tourist visits from all regions significantly dropped, due to the global economic downturn and unfavourable exchange rates with the Euro. It is interesting to note the significant drop in Britain’s market share. After years of almost constant performance of 57 per cent of arrivals, the market share significantly decreased between 2004 and 2010 reaching 45 per cent in 2010.

Although the total number of visits increased at a modest average rate during 2001 - 2009\(^\text{12}\) period, the average length of stay and the real revenue per visitor has declined. This is a reflection of the substantial changes undergone by the tourism market in general. According to Foley (2005), there has been a significant growth in city breaks, with more tourists preferring more frequent and shorter holidays.

Graph 2.4 shows the evolution of tourism revenue during 2001 and 2009.

*Graph 2-4: Tourism Overseas Revenue 2001 – 2009*

Source: CSO

Graph 2.4 shows a modest increase in revenue from 2001 to 2004, the average annual growth being 3.5 per cent. The period 2004 – 2007 witnessed a sustained growth, the overseas revenue increasing at an average annual rate of 6.9 per cent. However, the hostile economic climate starting with 2008 led to a decrease at an average annual rate of 11 per cent per cent in foreign receipts. A notable feature is the phenomenal growth (average annual rate of 9 per cent) in revenue from Mainland Europe\(^\text{13}\) during the period 2001 and 2008. However, in 2009 the revenue from Mainland Europe decreased

\(^{12}\) At the time of writing there has been no preliminary figures for foreign exchange revenue for 2010.

\(^{13}\) According to CSO, some part of this growth is due to the increased movement of immigrants visiting “home”
by 7.8 per cent. North America and Britain were the poorest performers with a negative annual growth of 1.7 and 1.4 per cent, respectively between 2001 and 2009.

This section showed that Irish tourism is facing challenging times, with two of the main source markets declining significantly. The following section aims to investigate the factors responsible for the decrease in performance.

2.3.2.3 Factors Threatening Tourism Performance

Irish tourism experienced unprecedented growth, outperforming other European markets in the 1990s. Unfortunately, since 2001 Irish tourism experienced a decrease in competitiveness due to a number of factors including the decline of price competitiveness, a hostile economic climate, changes in demand and customer needs, appreciation of the Euro against the dollar and Sterling and more and more aggressive competition from other destinations (Failte Ireland, 2007).

Price competitiveness is one of the major factors affecting tourism demand. Following a period of ten years of relative stability to 2000, Ireland has subsequently experienced a major deterioration in its price competitiveness (ITIC, 2005). Inflation was low during the 1990s but the rate of increase in Irish retail prices began to escalate rapidly in 2000, both in absolute terms and relative to competitors. The average level of Irish consumer prices increased by almost one quarter between 1999 and 2005, as opposed to a 12.9 per cent increase registered in the EU. Ireland rapidly built a reputation as an expensive destination, being the second priciest after Finland in the Eurozone (Forfas, 2002) or even in the world as found in a later study by McCarthaigh (2005). While in the early 2000s the increase in retail prices in Ireland was offset (compensated) by a weak Euro compared to the US Dollar and the GBP, in the past few years the weakening of USD and GBP led to a severe decline in Irish price competitiveness. This situation is exacerbated by the high dependence of Ireland on the British and American markets.

During 2008 and 2009, the global economic crisis put Irish tourism under increased pressure, Ireland being the first EU country officially entering into recession. In addition, the dependence on the UK and American market, two countries severely affected by the critical economic climate, worsened the situation. Many tourism enterprises have been put under immediate pressure, some even facing closure.
Apart from the turbulent economic climate, a decline of the famous “Cead Mile Failte” (Ireland of a 100 thousand welcomes) also affected the overall competitiveness of the Irish tourism experience. For years, the warm welcome of Irish people has been considered one of Ireland’s greatest advantages over competing destinations (Ward, 2006). The increasing share of foreign nationals employed in the tourism sector (at poor wages and with poor training and language skills-cheap labour) in the past years led to a significant decline of this valuable asset.

Changing demographics and lifestyle patterns have many implications for tourism since they affect travel patterns, customers’ needs and behaviour, the preferences for choosing a destination and frequency and length of visits. New trends emerged as a result of the societal changes including: a more sophisticated tourist; a preference for more frequent and shorter trips; a growing environmental consciousness; activities, hobbies, interest and curiosity are the new factors dictating the choice of a destination; and a strong awareness of value (Failte Ireland, 2007). Ireland is facing the challenge to develop products and experiences which appeal to “new tourists” in a marketplace which is increasingly competitive. As Failte Ireland (2007) points out, high-quality market research and predictive research is the key to success since it facilitates a fast response to changing conditions. A close investigation of the behaviour of the leading markets is absolutely necessary. Chapters 6 and 7 of the thesis will provide a detailed analysis of the behaviour of the British tourism market to the Shannon Region.

2.4 The Irish Tourism Statistical System

The previous sections provided some insights into the development and performance of Irish tourism. It has been pointed out that one of the challenges Irish tourism is currently facing is to develop products which appeal to the “new tourist” in a marketplace which is increasingly competitive. Ireland’s competitors already responded to the changes in customer demand by adopting a more proactive customer “needs-based” approach that implies the integration of product development and the destination marketing strategy. The key to success is, therefore, to design tourism products with the needs of the customer at the centre of the strategy (Failte Ireland, 2007). The role of information is central to achieve this goal, since it requires a constant monitoring of tourists’ behaviour. Identifying new trends requires quantitative and qualitative
indicators, and as much (detailed) information as possible should be gathered to provide decision makers with a solid base for future actions. The following sections will provide a review of the tourism statistical system in Ireland and inter alia comments on the appropriateness of the current data to undertake the task at hand.

2.4.1 Collection, Compilation and Dissemination of Tourism Statistics in Ireland

The success of any strategy is highly reliant on data quality and availability and accurate statistics are indispensable for good policy. In Ireland, official statistics on tourism are collected, compiled and disseminated by the Central Statistics Office (CSO). The Tourism and Travel Section of the CSO collects tourism data on an ongoing basis through three surveys: The Country of Residence Survey (CRS), The Passenger Card Inquiry (PCI) and The Household Travel Survey (HTS). In addition to CSO, Failte Ireland, the National Tourism Development Authority also collects and publishes data on tourism. The main survey conducted by Failte Ireland is the Survey of Overseas Travellers (SOT). The following sub-sections detail the main methods applied by both the CSO and Failte Ireland in the compilation of the tourism statistics.

2.4.1.1 Country of Residence Survey (CRS)

According to Tourism Statistics Review Group (2005), the Country of Residence Survey conducted by CSO is robust and well controlled. The CRS is a continuous sample survey of passengers, both inward and outward, at all major air- and seaports. The survey was introduced in January 1981 with the objective of “producing robust annual estimates for resident and non-resident passenger breakdowns on all air and sea routes into and out of Ireland” (O’Hanlon, 2008, p.2). The primary purpose is to determine what share of total passengers arriving and departing the country are Irish residents travelling abroad and what proportion are overseas visitors to Ireland. Apart from this, information required as an input to the calculation of the tourism and travel balance of payments, the overseas visitors are further classified by 28 countries and 4 residual geographic blocks. In 2005, the CRS was amended in a way that travel to specific countries can be tracked rather than country groupings as was the case
previously and facilitates a direct comparison with the Household Travel Survey (HTS)\textsuperscript{14}.

The survey is conducted, on a monthly basis, at all air- and seaports. Each month, a sample of flights and sailings are selected in a way to ensure proper representation of time, data and destination. A systematic sample of passengers is then surveyed with regard to country of residence and flight/sailing number. With a sample size of 612,200 passengers out of a total travelling population of 31.5 million trips in 2007, the CRS provides high quality, detailed traffic volumes on a monthly basis (MacFeely and Gilsenan, 2008).

The data from the survey is analysed by CSO and the results are weighted to population estimates provided by the carrier companies and the airport management company. Although conducted monthly, the results of the survey are published quarterly by route of travel (air cross-channel, sea cross-channel, continental and transatlantic) and by area of residence (Britain, Other Europe, North America and Other Areas) for overseas residents.

2.4.1.2 The Passenger Card Inquiry (PCI)

The Passenger Card Inquiry, run by the CSO, is a continuous sample survey of incoming and outbound passengers at airports and seaports. In addition, passengers are covered on rail and scheduled bus services between the Republic of Ireland and Northern Ireland. The primary purpose of the PCI is to gather data on expenditure of overseas visitors to Ireland and the expenditure of Irish residents abroad, data that is required as an input to the tourism and travel balance of payments. In addition to expenditure data, the survey provides information on the reason for journey, area of residence and length of stay both on aggregate and by type of accommodation used.

The survey, conducted throughout the year, employs a self-completion card as the survey instrument. Sailings and flights are selected in a way to ensure as far as possible a fully representative coverage and inquiry cards are distributed to all passengers or groups of passengers on the selected flights and sailings. Information on the expenditure of overseas visitors to the island is collected on departure, while data on the spending of

\textsuperscript{14} Traffic flows to destinations from the household and frontier survey can be compared.
Irish residents abroad is collected on arrival back in the country. Completed cards are collected and returned to the CSO for processing. When time permits, the surveyors assist the passengers in the completion of the cards. The sample size in 2007 was 350,500 passengers, from which 181,800 were inward passengers and 168,700 were on outward journey.

The results of the PCI are combined with the results of CRS to provide estimates of expenditure for both overseas visitors to Ireland and Irish residents abroad in total and by purpose of visit, route of travel and, for overseas visitors, by area of residence. Information on expenditure, and the resulting tourism and travel balance, is provided in aggregate form in the CSO quarterly publications and in more detail (e.g. by route, purpose of visit and area of residence), in the annual publication.

2.4.1.3 The Household Travel Survey (HTS)

The Household Travel Survey, run by CSO, measures domestic and international travel patterns by Irish citizens. Conducted in compliance with the European Council Directive 95/97/EC, the survey was first launched in the first quarter of 2000 and first results were published in December 2003. Administered by post, HTS covers all non-routine, non-work overnight trips, both by domestic and international tourists. A random stratified sampling method is applied. Each quarter, private households are randomly selected from District Electoral Divisions on the Electoral Register. The sample size is 13,000 households which represents approximately 1 per cent of the estimated 1.3 million private households in the country (MacFeely and Gilsenan, 2008).

The survey’s instrument is a questionnaire comprised of three sections. Part A establishes Household composition i.e. the number of persons in the household, ages and gender. Part B verifies if any overnight trips were taken. In case of an affirmative answer, the respondents are directed to Section C which collects information on the following variables: destination, number of persons, month of departure, main purpose for journey, length of stay, accommodation, booking method, type of transport used, total expenditure and payments made in advance. An important detail is the fact that the survey collects details only of the “main” event. If multiple destinations were visited or multiple forms of accommodation or transport means were used, these will be attributed to a single “main” destination, purpose, accommodation or transport type. Beginning
with 2006, the questionnaire was amended and a fourth section was added to collect information on the following breakdowns of expenditure: package, other accommodation, other transportation, other excursions/tours and other food, all not included in package; shopping and total expenditure.

According to MacFeely and Gilsenan (2008), survey results are grossed up to population by applying a two stage weighting procedure. First, the results are weighted to household population estimates classified by household type and region. Second, the outbound HTS results are calibrated with the outbound tourism frontier survey results. The same calibration factor is also applied to domestic tourism results, assuming that the level of under-reporting is approximately the same for domestic and outbound travel.

2.4.1.4 The Survey of Overseas Travellers (SOT)

The Survey of Overseas Travellers is an annual survey conducted by Failte Ireland since 1972. The purpose of the survey is to gain a deeper understanding of the characteristics of overseas visitors to Ireland. Although not recognized as an official source of tourism data in Ireland, the SOT is considered to be the main source of data on inbound tourism.

The survey collects information on the most salient characteristics of the overseas visitors to Ireland and their trips such as seasonality, routing, purpose of visit, travel arrangements, accommodation usage, regions of Ireland visited, activities engaged in, previous experience of Ireland, expenditure, satisfaction and value for money ratings, ethnicity, and basic demographic data e.g. age, class, marital status and travelling party composition. Respondents are asked to provide an estimate of spending for different expenditure categories such as bed and board, food and drinks, sightseeing and entertainment, transport while in Ireland, shopping and miscellaneous items. Information on advance payments on fares / inclusive packages is also collected.

The SOT is conducted at the major air- and seaports continuously throughout the year, surveying about 10,000 departing overseas visitors. Qualifying respondents are overseas visitors aged 15 and over who have spent at least an overnight, but not more than one year in the country. In the SOT, tourists are asked to complete an extensive questionnaire at the end of their trip to Ireland. Stratified random sampling is employed.
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The strata are defined by country of origin, port of arrival and month of departure. Within each port respondents are further stratified by route e.g. in airports monthly interview allocations are set for British, continental Europe and transatlantic routes (Stack and Unwin, 1995).

Interviews are conducted on a face-to-face basis based on a sample frame that is derived from the previous year’s Country of Residence Survey. The results of the survey are subsequently weighted by country of residence based on the results of the current year’s CRS. The fact that the results are weighted to the CSO survey allow for the use of disproportionate stratification within the sample design to ensure an adequate representation within the survey of all major source markets. Hence, cross channel sea and air routes are under sampled to reduce the number of British resident interviews achieved, while Mainland European air and sea routes are over sampled to ensure an adequate response from the smaller European markets, The results are then weighted back into proportion based on the CRS derived population estimates.

2.4.2 Irish Tourism Statistics: Issues and Developments Over Time

According to Latham and Edwards (2003), the statistical measurement of tourism is a relatively recent activity. This is not a surprise given the long neglect of the tourism sector in the past by governments across the world. However, beginning in the 1980s, there was an increased awareness of the importance of this sector, hence more focus has been placed on improving tourism data, which is known to be subject to many credibility issues and criticism (see Chapter 4 for more details). As O’Hagan and Waldron (1987) state, Ireland is better placed with respect to tourism data (particularly inbound statistics) than most other European countries, partially due to the fact that sea and air, as opposed to rail and private car, are the main means of transport to reach the country. In spite of this, there were and still are many issues in need of consideration. This section points out the main problems associated with Irish tourism statistics over time and the measures taken to correct them.

In a report published in 1972, O’Hagan highlighted the difficulties of finding adequate statistical information on tourism and called for measures for improvement. The author stressed that although the problems are less severe in the case of Irish tourist statistics than of most other countries, they still existed. Among the problems the most serious
difficulty was that the passenger card inquiry only provided information on visitors into and out of the country by route travelled and not by area of permanent residence, hence the usefulness of the data was seen as being limited. Other anomalies detected in the study included the discrepancy between tourist categories and the United Nations definition of a tourist, and the inclusion of expenditure of transit air passenger in visitor receipts. The author called for immediate actions to correct any anomalies in the data and suggested that a transfer of responsibility for the collection of all visitor statistics to Bord Failte should be seriously considered. The desire to bring some improvement in tourism statistics was welcomed by industry members who pointed out the preference to “hear some discussion on the merits of having more data against the successes obtained to date with limited data” (Fitzpatrick M. in O’Hagan, 1972, p.28).

Prior to 1999, the CSO defined a tourist as a holidaymaker, which was at variance with the UNWTO recommendations which define a tourist as a visitor who stays at least one night in a collective or private accommodation in the country visited for leisure, business or other purposes. Since January 1999, the CSO aligned to the international recommendation. In addition, the CSO started to distinguish and publish data on same-day international visitors.

In a later study investigating the status of tourism statistics, published in 1987, O’Hagan and Waldron affirm that Ireland had made more progress than most countries in assembling data on tourism. However, despite the progress made there were still unsolved issues. One of the observations in the study was the existence in some countries, including Ireland, of an amount of duplication in the collection of tourism statistics. Both, the national statistics office and the national tourism organization collect data on tourism, using different methodologies and definitions. Referring specifically to the case of Ireland, the author pointed out the significant discrepancies between the estimates for tourism expenditure generated by Bord Failte and those generated by the CSO. To avoid confusion, the discrepancies are eliminated before publication of the figures by reducing Bord Failte’s estimates to about two thirds of their original value. Apart from different sampling techniques used, the main factors responsible for the difference in estimates were: failure to include credit-card and cheque-book expenditure in answer to CSO questions; underestimation of cross-border expenditure and a bias towards higher-spenders in the Bord Failte sample. The authors
pointed out that generally the methods used to estimate tourism expenditure are flawed, because “reliable in principle” (p.114), the survey method is based in practice on a tourist’s recollection of expenditure after a trip. O’Hagan and Waldron (1987, p. 114) made a strong case that “the diary method used in Family Budget Surveys would undoubtedly be more accurate”. Unfortunately, the high cost and intensive labour implied by the diary approach was subsequently used as an argument to reject a diary approach.

One of the milestones in the development of Irish tourism statistics was the Tourism Satellite Account (TSA) project. According to MacFeely (2006, p.3), this project was “critically important initiative” as it brought the CSO, the tourism agencies and the Department of Arts, Sport and Tourism together with academia to develop a framework. Published in 2004, the “First Steps” TSA helped identify gaps in Irish tourism statistics, which was a very welcome development in the absence of any formal review of Irish tourism statistics. As MacFeely pointed out, the TSA placed tourism statistics in context by emphasising the links to the National Accounts and Balance of Payments and forced the CSO to question its own role in the compilation of tourism statistics.

The TSA project team identified a number of issues and suggested some measures to overcome them. Underlining the importance of domestic tourism to the overall tourism marketplace, the report pointed out the lack of data on “same-day visits” by domestic residents and urged the development and implementation of a survey instrument to measure this vital component. It was also revealed that “tourism expenditure data is too aggregated to permit a full input output based policy analysis” (Failte Ireland, 2004, p.10). The authors stressed that more detailed information on expenditure is essential to improve the knowledge base and recommended the use of a diary approach. It was suggested that this initiative would facilitate better assessment of the impact of various tourism policy initiatives.

The absence of tourism expenditure data at regional level is another weakness of Irish tourism statistics. The development of a survey instrument to provide regional expenditure estimates would lead to major improvements to the TSA. Once again the diary method is recommended as a means to overcome some of the deficits of tourism
data. The authors recommended the employment of the diary approach to provide supplementary information on expenditure categories and suggested that this would also cater for the regional dimension. In addition, the report advocated that CSO should undertake a comparative review with a specific focus on expenditure categories, definitions, collection and calculations, and suggested that benchmarking the estimates against parallel diary estimates would be very beneficial.

2.4.3 Recent Developments

In its Strategy for Statistics 2003 – 2008, the National Statistics Board articulated a plan to support the development of Ireland’s statistical system. A key element of this strategy was for the CSO to maximise the use of existing data held by Government Departments and Agencies (NCB, 2003). According to MacFeely (2006), the relationship between the CSO and the national tourism agencies (Failte Ireland and Tourism Ireland) and the Department of Arts, Sport and Tourism has changed and improved in recent years, which significantly benefited the improvement of tourism statistics in Ireland. Greater consultation with tourism agencies and the DAST, coupled with the publication of the First Steps TSA, determined the CSO to think of tourism statistics outside of the EU Council Directive 95/57/EC and develop a more unified view. The co-operation has led to a better appreciation of respective needs and consequently, surveys and outputs are being adapted in response to users’ growing needs.

As previously pointed out, the CRS’s amendments in 2005 allowed for the comparison of the estimates with the results of HTS. According to MacFeely and Gilsenan (2008), HTS underestimates the number of trips taken by Irish residents and although the difference was quite volatile over the years, at times it has been as high as 25 per cent. MacFeely noticed a seasonal element, with the underestimation being typically worst in Q4. Since there was a 3 months time lag for the HTS, it was assumed that recall difficulties and high response burden for frequent travellers were the main factors responsible for the underestimation. In 2007, a more in-depth analysis has been conducted in an attempt to identify other factors causing the difference in the estimates provided by the two surveys. The analysis revealed interesting points: 1) first, it was revealed that countries that were not directly connected to Ireland (e.g. Australia,
Chapter 2 Irish Tourism Performance and the Irish Tourism Statistical System

Thailand) had a large surplus\textsuperscript{15} in the HTS; 2) countries with hub airports for transfers like UK, Netherlands and Germany had a large deficit\textsuperscript{16} on HTS; 3) part of the disparity in the results is also likely to arise from an inadequate population frame\textsuperscript{17} with migrant population being underrepresented. Being aware of the impact of all discrepancies in the balance of payments, the CSO works on estimates for expenditure taking into account the biases in the sample.

Another measure taken to improve the tourism statistics is the introduction of an Airport-Pairing Database (APD) in 2008, which provides monthly information on every direct aviation route in and out of Ireland. The data can be compiled at four different levels of aggregation: airport, city, country or continent. In addition, the CSO is currently developing a second generation of the database that will offer route-KMs and country of residence (Irish/Non-Irish) passenger split by route (MacFeely and Gilsenan, 2008).

The Passenger Card Inquiry is also currently being amended. The new inbound visitor survey, based on the UNWTO model for border surveys, will capture data on reason of journey, additional activities, regions visited, accommodation used, trip frequency, booking method, pre-trip expenditure broken down by type. The sampling / grossing methodology will be changed to adopt the “route approach” currently used by the CRS and APD. This will allow the PCI results to be matched directly with the CRS and APD at route and airport-pairing level, hence detailed data on tourist behaviour will have a precise routing dimension (O’Hanlon, 2008). According to MacFeely and Gilsenan (2008), the PCI’s amendment and the launch of the next generation of the Airport-Pairings Database will lead to improved tourism data.

One of the current challenges tourism is facing is the development of the sector in an environmentally friendly manner. Since further development of the APD include information on aircraft type for each route, an estimation of the aviation emissions from flights in and out of Ireland will be possible. Thus, analysts will be able to balance typical revenues from an individual route with the environmental damage that route is causing.

\textsuperscript{15} The estimates of outbound tourism from the HTS exceeded the estimates from the CRS.
\textsuperscript{16} The estimates of outbound tourism from the HTS were lower then the estimates from the CRS.
\textsuperscript{17} According to CSO (2008) all non-nationals are estimated to account for as much as 24 per cent of the total population. Since no household is registered in Ireland, the migrant population is underestimated.
Despite the recent improvements, there are still some issues that require special attention. The aggregate nature of expenditure data and its poor availability at a local level are particularly challenging since they make the Irish tourism statistical system inappropriate as a business tool. Statistical data on the number of tourists visiting Ireland are typically available at national and regional level. But as Moloney and O'Sullivan (2004) point out, data is fragmented and dispersed, and statistics for certain aspects of tourism are only partially available at national, regional and local level. The authors stressed that “the lack of data deprives both tourism authorities and tourism companies of the information essential for formulating public policy or developing business strategies” (p.35). Dillane (1998) also stressed that for years Irish tourism marketeers were forced to build strategies on intuition rather than on firm statistical data. Generally, tourism marketeers are more interested in the expenditure behaviour of certain market segments in the area where they operate rather than being interested on aggregate figures at national level. For instance, a manager running a restaurant is more concerned with the eating habits of potential clients to the region than total expenditure. More detailed data will help tourism providers to target marketing efforts specifically to those segments that are most likely to spend money in their premises hence leading to the maximization of their profits. It is these areas where a diary approach would bring the much-needed knowledge, in addition to the increased accuracy of data provided.

2.5 Conclusions

The purpose of this chapter was to provide background knowledge on the policy and performance of the Irish tourism sector. Since one of the research objectives of the current thesis is to investigate the benefits of the diary method as a tourism data collection method, an investigation of the Irish tourism statistical system was necessary. The discussion in this chapter shows that tourism is an important sector of Ireland’s economy, being an important source of foreign exchange and employment generator. For instance, in 2007, tourism is estimated to have generated 7.7 billion in foreign exchange, which translates to 3.7 per cent of the GNP, and had 322,000 associated jobs. Even more importantly, it has been shown that tourism significantly contributes to balanced regional development with more than 60 per cent of overseas revenue being spread outside of Dublin area.
Absent from the Government’s priority list, tourism was largely a neglected policy area prior to 1985. In a period when mass tourism was dominating, Ireland lacked the climatic conditions necessary for the mass phenomenon and the country was not a significant tourism destination. In addition, the lack of price competitiveness, access constraints and significant deficiencies in the quality of the tourism product were significant factors that led to the poor performance of the sector during this period. Starting with 1986, Irish tourism witnessed a dramatic turnaround. Experiencing continuous growth for the next 14 years, Irish tourism was one of success stories in the Irish economy. The Government became aware of the huge potential of the sector and actively initiated policies for tourism development. The generally favourable economic climate, the increase in price competitiveness, the liberalization of air routes and the increased funding available through different operational programmes significantly contributed to the development of Irish tourism during the 1990s. Unfortunately, beginning in 2001, Irish tourism registered a slow down on grounds of a loss in price competitiveness, a decrease of one of its major assets the so called “Cead Mile Faile”, the 9/11 events, the global financial crisis experienced in the last two years, changes in demand and customer needs and more and more aggressive competition from other destinations. Ireland is currently facing the challenge to develop products and experiences which appeal to new tourists in a marketplace which is increasingly competitive. To achieve this, reliable and detailed data on tourist behaviour is paramount.

It emerged from the reviewed documentation that Ireland is better placed with respect to tourism data than most other European countries. However, a number of issues that need further consideration were stressed.

The increased importance of Irish tourism led to a growing interest in improving the tourism data. One of the milestones in the development of Irish tourism statistics was the publication of the Tourism Satellite Account which identified data gaps and recommended solutions for improvement. In addition, the relationship between the CSO and the national tourism agencies (Failte Ireland and Tourism Ireland) and the Department of Arts, Sport and Tourism has changed and improved in recent years, which significantly benefited tourism statistics. The co-operation led to a better assessment of data requirements and consequently some surveys and outputs were
amended to satisfy these needs. For instance, the introduction of the HTS by CSO in 2003, allowed Failte Ireland to retreat their Irish Travel Survey and allocate their resources elsewhere. The CRS and PCI redesign yielded more robust estimates and the dissemination of the Airport Pairings database has been very well received by data providers and users (O’Hanlon, 2008). However, some issues like the aggregate nature of expenditure data and its poor availability at a local level are still of concern. It has been recommended on a number of occasions that the adoption of a diary approach would overcome these limitations. Probably the high cost and the higher effort in conducting a diary survey prevented its implementation. The benefits and drawbacks of the diary method have been investigated during the current research and the following chapters will provide some preliminary and detailed results.

It was shown that Ireland highly relies disproportionately on British tourists to support its tourism industry, with almost half of the international visits to the island being made by British citizens. However, recent trends suggest that this vital tourist market significantly declined in the past years, raising serious concerns in the industry. The following chapter aims to provide a profile of the British outbound market in general and the British market to Ireland in particular, emphasising the recent shift in travel behaviour and the measures proposed by industry members to adapt the tourism product to the “new tourist” and restore growth.
CHAPTER 3: BRITISH TOURIST MARKET: A VITAL MARKET FOR IRELAND

3.1 General Trends in UK Outbound Travel

The UK is one of the major generators of international tourism in Europe, ranking second just after the Germany. Ireland has enjoyed a highly successful relationship with its nearest neighbour, around 50 per cent of the international visitors to the island being UK citizens. However, following eight years of phenomenal growth, in 2004 the number of British visitors to Ireland began to soften. This chapter aims to provide a profile of the number one tourist generator for Ireland, the British market. The reasons for the apparent change in the British travel patterns and the measures taken by the tourism stakeholders to overcome the slow down will also be discussed.

The UK is the fourth largest tourist generator in the world after the US, Germany and Japan. In terms of spending abroad, UK residents rank third in the hierarchy of world top spenders, accounting for 8.6 per cent of world market share (TTC, 2008). The growth of the British outbound tourist market has consistently out-paced that of the rest of the developed countries, both in terms of the number of visits and expenditure (Meyer, 2003). According to the data published by the Office for National Statistics (ONS), UK residents made about 17.5 million visits abroad in 1980, spending in total 2,738 million GBP. In 2007, the total number of overseas trips reached 69.5 million visits, while spending by UK residents abroad rose to a record level of 35.0 billion GBP. However, visits abroad by UK residents fell significantly in 2009 to 58.6 million and expenditure abroad fell GBP 5.1 billion to GBP 31.7 billion.

British outbound tourism experienced the most phenomenal growth during the 1990s, with the number of visits abroad almost doubling from a modest 30.8 million registered in 1991 to 56.8 million in 2000. Improvements in living standards coupled with rapid developments in communications, transportation and global economic integration are considered the main factors responsible for the significant increase in international tourism demand from UK (Song et al, 2000). The rise of the low cost sector had a significant impact on the outbound tourism, consumers benefitting from the increased
competition, more destinations, greater frequencies and a greater diversity of fares (ICAO, 2003).

According to Costa (1995), the UK has a mature outbound market characterized by a highly developed tour operator business. The package tour industry originated in the first half of the 19th Century and since then continuously developed to the point that today, the Association of British Travel Agents has around 750 tour operating members (ABTA, 2009). However, despite the popularity of package holidays registered before the millennium, in recent years there has been a gradual increase in independent travel. Signs predicting the swift away from the traditional holiday packages were actually noticed in the early 1990s. In a study on UK outbound travel, Lavery (1993, cited in Costa, 1995) stated that the change reflected disenchantment with the holiday package, its quality and value for money and pointed towards better prospects for the independent travel sector than for tour operators. The availability of cheap flights and reasonably priced hotels, the increase in Internet usage as a means for finding information and the opening of the Channel Tunnel were factors stimulating independent bookings.

Europe is the most popular regional destination for the UK outbound market accounting for 78.3 per cent of visits abroad, followed by North America with a market share of 6.2 per cent. However, since the mid 1990s, Europe’s actual market share continuously decreased from 83 per cent in 1995 to 78.3 per cent in 2009. In terms of individual countries visited, Spain and France are the most popular destinations attracting together 36.4 per cent of all visits by UK residents abroad. Ireland ranks third in popularity, followed by USA, Italy, Germany and Greece. Notable declines occurred in visits to most of the regions in 2009 e.g. North America by as much as 21 per cent and Europe by 15 per cent.

In terms of expenditure made by UK residents abroad in 2009, Spain and France benefited most, attracting 5,582 billion GBP and 3,703 billion GBP respectively. However, this represents a decline of 14 and 7.6 per cent, respectively compared to the previous year. Although Ireland enjoys the third position on the top of most popular destinations, in terms of foreign receipts the country ranks only sixth with 986 million GBP in 2009. This represents a decrease of 11.2 per cent from 2008.
The average duration of UK residents’ visits overseas in 2009 was 10.5 nights, a slight increase from previous years when the average length of stay was 10.2 nights. While there was little variation over time on the average number of nights stayed in Europe (7.4 to 8.1 nights), there was a significant decrease for long haul destinations. For instance, the average length of stay to North America decreased from almost 17 nights registered in 1996 to 14 nights in 2009 and for “other countries” including Australia the decrease was even more dramatic, from 26.0 to 21.2 nights. This is the result of a change in tourists’ behaviour. The increasing ease of travel has created a sense that “the world is shrinking” and a mentality where travellers are happy to visit long-haul destinations for a fortnight rather than a month as was the case previously (TTA, 2000).

Holiday is the most popular reason for travelling abroad for UK citizens, accounting for almost two thirds (65.7 per cent in 2009) of the total number of international visits. Visiting friends and relative is the second most frequently reported purpose for visits abroad and the market share has experienced significant growth in the last few years. While in 2000, the VFR sector accounted for 12.6 per cent of all trips taken abroad, the share reached 19.7 per cent by 2009. Business tourism experienced a decrease in market share from almost 16 per cent registered in 2000 to only 11.7 per cent in 2009. The profile of countries visited significantly varies according to purpose of visit. While Spain and France top the holiday list (with 17.273 million visits between them in 2009), Ireland is the number one destination for tourists visiting their friends and relatives. In relation to business trips, France and Germany dominate the list of destinations, with a total of about 1.8 million visits between them in 2009.

In relation to seasonality patterns, over the past years, the times at which British tourists travel abroad have remained very constant. In 2009, around 19 per cent of all visits were taken during the January – March period, 27 per cent in the early summer between April and June, 34 per cent in the high season from July to September and 20 per cent between October and December. This situation has been remarkably constant since 1995, when the growth in the long-haul winter and European ski holiday markets diminished the traditional dominance of the summer months. However, the unchanged UK’s climate and the timing of school holidays make unlikely that the summer market share will further diminish in the near future (TTA, 2000). Holiday visits exhibit the greatest seasonality with almost 14.5 million visits in quarter three and only 6.5 million
visits in quarter one. Although, visits to friends or relatives are most common in the third quarter, the distribution is more even among the other months of the year. In contrast, business trips show very little seasonality. There is quite a strong geographical variation in terms of seasonality. Trips to Europe show a strong seasonal pattern, ranging from 17.8 per cent in January to March in 2009 to 35.5 per cent in July to September. In contrast, trips to North America display less seasonality, ranging from 20 per cent in January to March to 31.4 per cent in the high season. Spending by UK tourists abroad show similar seasonal patterns as visits, peaking at almost 11 million GBP in the third quarter of 2009.

As previously pointed out, going on holiday is the primary reason for travelling abroad for UK citizens. According to Gitelson and Crompton (1983, cited in Shaws, 2000), buying a holiday is considered in many cases a high-risk decision; hence the planning stage assumes a major role. In the UK, the planning process reaches the highest intensity by January for a main summer holiday, with around 64 per cent of the holidays being booked by Easter. Decisions are strongly influenced by media and images projected of various destinations (Shaws et al, 2000). In relation to holiday motivation and destination choice, Jang and Cai (2002) identified six push factors and five pull factors that have significant effects on destination choice. “Knowledge seeking” was the most important factor to motivate British holidays abroad, followed by “escape” and “family and friends togetherness”. The results revealed different motivational factors for travelling to different destinations. For instance, British tourists visit the US for “fun and excitement” and “outdoor activities”, Oceania for “friends and family togetherness”, and Asia to “seek a novel experience”. Among the pull factors, “cleanliness and safety” was the most important factor, followed by “easy-to-access and economical deal” and “sunny and exotic atmosphere”.

The British outbound market has been changing radically in the last few years. Travel trends indicate a move away from mass, cheap package holidays to “build-your-own” inclusive packages. Special interest tourism (SIT) is on the rise and more environmentally sensitive, knowledge-building holidays became more appealing (UKMP, 2004). In a study undertaken by Tourism Ireland aiming to review the British outbound market, the review committee pointed out a number of new emerging trends. According to the results, British tourists are “increasingly spoilt for choice” (Tourism
Ireland, 2005, p.5), seeking out new destinations and experiences, and being less likely to return to places where they holidayed before. Enjoying a greater choice, customers became more value-conscious than ever before, looking for reliable quality and value for money. The use of the Internet for booking a holiday has increased steadily with over 50 per cent of UK outbound trips being booked via the Internet in 2004 (ETC, IPK International, 2004). Short breaks and additional holidays are becoming more popular, growing faster than the traditional long-holiday sector. At least one-third of British citizens take more than one holiday per year. The ease of access to information and the significant growth in low fare access to different destinations led to the so-called “impulse tourism”, where tourists decide for a break in the very near future and choose the destination at the moment of booking.

3.2 British Tourist Market to Ireland

The previous section identified the UK as one of the top five tourist generators in the world and provided some insights into the general behaviour of British tourists abroad. The current section focuses on profiling the UK tourist market, specific to Ireland. The aim is to give an overview of the behaviour of British tourists to Ireland, to investigate the evolution of the market over time and to identify the main aspects responsible for the recent slow down and the measures taken by the tourism organizations and stakeholders to overcome this situation.

**Numbers and Revenue**

Britain is Ireland’s largest and most important tourism source market, accounting for more than 3.26 million visitors in 2009 or 47 per cent of total international trips and around 1,038 millions EUR or 26.7 per cent of overseas revenue. However, despite the leading position as a tourist generator for Ireland, a slow down in terms of both number of visits and revenue was registered in recent years. Graph 3.1 shows the trend in British visitor number and revenue from 1997 to 2009.
According to the data provided by Failte Ireland, British tourist numbers to Ireland increased from 2.8 million in 1997 to 3.03 million in 2009. The peak was registered in 2006 when just over 3.8 million tourists arrived in the country. Ireland experienced the most significant growth in terms of total arrivals during 1997 – 2000 period, when the total number of tourists grew by 20 per cent. The world events following the Millennium led to a decrease in the number of British tourists travelling overseas, and consequently to Ireland in 2001. The overall performance for the period between 2002 and 2008 was pretty modest with a total growth over the period of as little as 3.7 per cent. In 2009 the number of British tourists visiting Ireland fell dramatically to 3.031 representing a decrease of as much as 15 per cent compared to 2008. In relation to revenue, Ireland experienced a significant increase between 1997 and 2003, the total receipts growing from 867 200 EUR in 1997 to 1,3 million EUR in 2003. During 2003 and 2008, the revenue was remarkably constant, while 2009 witnessed a significant drop of 13 per cent to just over 1 million EUR.

**Why Do British Citizens Travel to Ireland?**

Holidays and trips to visit friends and relatives have always been the most popular reasons for the British citizens to visit Ireland. In 2009, 8 out of 10 British travelled to Ireland for one of the two main purposes of visit. Although no major shift in the reason for travel emerged over the last years, a significant decrease in the number of holidaymakers in favour of those visiting friends and relatives was observed in 2009. Graph 3.2 illustrates the trend in purpose of visit since 1997.
Graph 3-2: British Tourist's Profile: Purpose of Visit

In 1997, holidaymakers accounted for just over 50 per cent of all trips to Ireland, while in 2009 the market share dropped to 37 per cent. Conversely, the market share of VFRs increased from 31 per cent to almost 44 per cent over the same period. The strong ancestral ties between Ireland and UK and geographical proximity, coupled with increased low fares access have impacted on this trend (Tourism Ireland, 2007). Business trips and visits for other purposes remained more or less constant over the last 10 years.

Where Do British Holidaymakers Go to Ireland?

Dublin is the most popular destination in Ireland with 48 per cent of British holidaymakers visiting the area in 2009. The South West is second in British tourists’ preferences, attracting 18 per cent of tourists. This is the result of a shift in tourists’ geographical preferences. The changing pattern over the last 10 years is illustrated in Graph 3.3.

Graph 3-3: Regions Visited by British Tourists 1999 – 2009

Source: Failte Ireland
According to data provided by Failte Ireland, Dublin is the most visited region by British tourists while on Ireland with 48 per cent of tourists visiting the area in 2009. The second in British tourists’ preference is the South West with 18 per cent of tourists visiting the region, followed by the Midlands/East and the West which attracted 12 per cent of the tourists. The general trend towards increased short city breaks has benefited Dublin between 1999 and 2009, Dublin being the only region that gained in popularity over the period. Conversely, the number of tourists visiting the other regions has declined during the same period of time, with Shannon and the North West losing most on popularity.

**When Do British Holidaymakers Visit Ireland?**

Unlike other tourist markets to Ireland which show a tendency to visit the country during the summer months, British tourists are likely to visit Ireland at any time of year. Graph 3.4 highlights this trend from 1999 to 2009.

**Graph 3-4: British Tourist's Profile: Month of Arrival**

![Graph 3-4: British Tourist's Profile: Month of Arrival](image)

*Source: Failte Ireland*

It is evident from the graph that British tourist market to Ireland is not very seasonal. In 2009, 30 per cent of the tourists visited the country between January and April, 40 per cent between May and August and 30 per cent between September and December. It is also evident from the graph that there was no major shift in time preferences over the years. A slight increase in the number of tourists visiting the country between January

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18 In 1999, 14 per cent of the British tourists visited the Shannon Region while only 8 per cent of the tourists visited the area in 2009. 10 per cent of the tourists visited the North West region in 1999, while only 6 per cent in 2009.
and April emerged in the last years. The general trend towards increased short breaks taken generally during the off-season period might be the main cause for this increase.

**How Long Do British Holidaymakers Stay in Ireland?**

The duration of British holidays in Ireland has undergone significant change over the time. Graph 3.7 illustrates the variation of length of stay from 1997 to 2009.

![Graph 3-5: British Tourist's Profile: Length of Stay](image)

**Source: Failte Ireland**

It is evident from the graph that short breaks are becoming increasingly popular. While in 1997, long stays of over 9 nights were the most popular, accounting for one third of the holidays, in 2009, short breaks of 1 to 3 nights accounted for as much as 50 per cent of the holidays. This significant increase in the short breaks is the result of the confluence of a number of factors such as rising incomes, more frequent holiday taking and falling real cost of air travel as a consequence of the rise in low cost airlines.

This section focused on profiling the British tourist market to Ireland, underlying in the same time the shifts in tourist behaviour over time. The next section focuses on investigating how tourism stakeholders reacted to the changing nature of the British market.

### 3.3 Restoring Growth from Britain

The lack of growth in the UK tourist numbers to Ireland experienced in the last few years caused serious concerns in the tourism industry. Securing growth from Britain...
represented a key challenge since 2003. In 2004, the number of tourists from the UK declined by 1 per cent, following a decade of sustained growth. In response to the new challenge, Tourism Ireland in collaboration with industry leaders initiated “Project Britain” to investigate the reasons behind the lack of growth and to develop an appropriate strategy to overcome the situation. The project adopted a three-staged approach. The first two stages namely “Understanding the Problem” and “Hearing the Voice of the Consumer” involved a very detailed review of the market, investigating the nature of the new British tourist and emerging trends in travel behaviour. The major objective was to gain a good understanding of the British tourist market, the performance of the British market to Ireland and Ireland’s competitive position and to identify where the best future prospects lie. The third step, “Focus and Action” focused on identifying the appropriate strategic response. The current section will provide a synopsis of the project since it will help the reader to better understand the market and the measures proposed by Tourism Ireland to overcome the slow down in the British market.

The analysis undertaken as part of the project’s first stage revealed that the British Market is changing rapidly. Tourists are increasingly seeking out new destinations and experiences and are less likely to return to places already visited. The higher than ever variety of choices and the ease of booking holidays via the Internet made British tourists more sensitive to “value for money”. Short breaks and additional holidays are becoming more and more popular and the trend towards “experiential tourism” is more and more evident. The ease of access to information on the Internet and the availability of low fare access led to shortening the time-span between the decision and booking, with more and more trips booked “last minute” (Tourism Ireland, 2005).

Considering this climate, restoring the growth of British tourist market to Ireland proved to be a challenging task. First, the increased competition from Eastern Europe and long haul destinations that are very price-competitive, undermined the general belief that Ireland can always rely on British tourists to support its tourism industry. This increasingly competitive environment makes it difficult for Ireland to increase its market share of British tourists. Although Ireland is an appealing destination for British citizens for various reasons, it lacks the “immediateness” to visit since tourists perceive it as a place that they can visit at any point in the future rather than one they really wish
to visit now. The research conducted by Tourism Ireland in the UK, also revealed that the tourism product needs to redefine itself in terms of what it offers and the way it is packaged in order to be more appealing to the changing British tourist (Tourism Ireland, 2005).

Despite the loss in competitiveness and other challenges pointed out, Ireland has numerous assets that can help build a more appealing image. For instance, one of the biggest assets is the friendliness and hospitality of people which give Ireland a competitive advantage over other destinations. According to Tourism Ireland (2004) this important quality should be placed centre-stage in all tourists training programmes. The Irish countryside is known as being largely unspoilt and especially in the context of the new general trend toward green tourism, it is hugely attractive to visitors. Ireland also has good potential in festivals, events, and special interest breaks such as wellness holidays.

The second stage of the project initiated by Tourism Ireland involved an extensive qualitative research study throughout Great Britain. The main objectives were: 1) to identify the reasons that would encourage repeat visitation, 2) what would motivate those tourists who are interested in visiting the island to do so in the near future and 3) what would encourage those citizens without an interest of visiting the country to change their mind. Unfortunately, the research revealed that holidaying in Ireland is not as attractive as it was. The loss in attractiveness is partially due to the increase choice available for customers with more destinations becoming more exciting, interesting and accessible. Although the British have very positive perceptions about the island and Irish people, they do not really have a clear picture of what a holiday in Ireland would look like, particularly outside of Dublin. Generally associated with a sociable, drinking experience, the Dublin holiday is losing popularity in favour of more sophisticated experiences advertised by other European capitals. The similarity between the two countries is also unfavourable, especially for those tourists who seek a “different experience” than holidaying in their own country. However, some potential for growth has been identified, especially among the white-collar employees, managers and professionals aged over 50. Ireland is also likely to be considered appropriate for a short break or week-long additional holiday. Consumers confirmed once again that the
friendliness and welcome of Irish people is still the number one asset but alone this attribute is not a strong motivator for holidaying in the island.

Informed by the results obtained by the review group during the first two stages of the project, a number of measures have been proposed to respond to the shifting demand patterns and other challenges that the number one tourist market to Ireland is presenting. The strategy was built around three central themes: 1) Promotion: a re-focus of the approach to promotion in the British market by providing more motivating reasons to visit the island was deemed necessary. 2) Product: the Irish tourism product needed to redefine itself in terms of what it offers and how it is packaged in light of the changing consumer needs. It was suggested that a shift away from selling product (bed nights) in favour of including the products as part of an experience would be beneficial. 3) Hospitality and welcome: The friendliness and hospitality of Irish people is the number one asset and it is of major importance to retain this competitive advantage.

The need to target a broader range of consumers has been pointed out in the project with the suggestion to increase the appeal for female consumers, families and older skilled workers while continuing to invest in the best prospects such as consumers on the ABC1 collar aged over 40. Business tourism has been identified to have high potential and an action plan to boost this valuable sector has been established. Since British citizens have limited knowledge of things to do in Ireland, the marketing campaign will focus on promoting the leading attractions. Promoting car touring is also part of the strategy in an effort to assist with regional growth objectives.

The targets for growth for the entire island (including North Ireland) set up by Tourism Ireland were 3 per cent in 2005 and 2006 and 4.5 per cent in 2007. As previously discussed, the number of British tourists visiting Ireland peaked in 2006, with just over 3.8 million visits. While 2005 brought an increase of 3.2 per cent over the previous year and an impressive 5 per cent growth was registered in 2006, starting with 2007 Ireland experienced again a decline in its number one tourist market. However, the general hostile economic climate is definitely partially responsible for the slow down. The depreciation of the GBP against the European currency made Ireland even more expensive than before.
3.4 Summary

This section aimed to provide a profile of the British outbound tourist in general and British tourists to Ireland in particular, underlying the shifts in the behaviour over time. Britain is one of the largest tourist source markets, ranking fourth in terms of number of overseas visits and third in terms of spending level. The UK outbound tourism experienced the most phenomenal growth during the 1990s when the improvements in living standards, the rapid development in communications, transportation and global economic integration led to a significant increase in international tourism demand. The UK has a mature outbound market characterised by a highly developed tour operator business. Despite the loss in market share, Europe is the number one regional destination for British tourists, with Spain and France enjoying the highest popularity. Holidaying is the main purpose for travelling abroad, followed by visits to friends and relatives which continuously gained in market share in the last few years.

The UK outbound market changed radically in the last few years, with travel trends indicating a move away from mass, cheap package holidays. While buying a package holidays through a tour agency was the preferred method before the mid 1990s, in recent years factors like easier access to information via the Internet, a higher availability of low fare transport and accommodation and the opening of the Channel Tunnel have stimulated independent bookings. British tourists tend to shorten their holidays; this trend is most evident for long-haul destinations where the ease of travel created a sense that “the world is shrinking”. Short breaks and additional holidays are gaining in popularity. While in the past buying a holiday was considered a high-risk decision, tourists booked their trips long before departure, the new trend is towards “impulse tourism” where tourists decide and book a trip in the very near future.

Ireland has enjoyed a successful relationship with Britain and this is no surprise considering the geographical proximity and the historical links between the two countries. Approximately half of the total international tourists to Ireland are British citizens. Unfortunately, in recent years, the number of British tourists visiting Ireland began to soften following eight years of phenomenal growth. It was shown that despite the decline experienced in the last years, Britain was and still is the number one tourist generator for Ireland. It emerged from the data provided by the CSO and Failte Ireland.
that the British market to Ireland experienced significant changes over time. For instance, a shift in tourist geographical preference was noticed: after a few years of increased interest for the Dublin area, in the last two years British tourists appeared to be more attracted by the South West and Shannon area. A trend towards an older profile of British tourists was also pointed out, with the over 65 years cohort continuously increasing the market share. Probably the most evident shift in behaviour relates to the duration of stay during holidays which is on a descending trend with short breaks gaining in popularity.

While Britain still remains the main tourist generator for Ireland, the decline in the number of visitors beginning in 2003 caused serious concerns in the tourism industry. As a consequence, Tourism Ireland in collaboration with industry leaders initiated a major project to investigate the causes for the slow down and to develop an appropriate strategy to restore growth. The extensive consumer research conducted as part of the project identified the main changes in the tourist behaviour, the most appealing segments to be targeted and the strengths and the deficiencies of the Irish tourism product. A number of measures built around three central themes i.e. promotion product and hospitality and the welcome of Irish people were proposed. Initially, the strategy appeared to be a success, the number of British visitors increasing in 2005 and 2006 above the target. However, beginning with 2007 a decline in British visitors was registered again but the general hostile economic climate might have played an important role.

Project Britain shows the importance of research into tourist behaviour and that it is vital to recognize changes in tourism patterns. This project focused more on the qualitative aspects and provided little or no information at all about how British tourists spend their money in the country. An expenditure analysis could shed more light on how to target the most profitable segments of the market. It has been shown that it is best to attract those tourists that are high per capita spenders since only the number of tourists coming to Ireland has little impact. Chapter 5 and chapter 6 of the current thesis will provide an in-depth expenditure analysis of the British tourist market to the Shannon Region. The next section addresses the literature pertaining to the topic of current research.
CHAPTER 4: LITERATURE REVIEW

4.1 Introduction

In recognition of the growing importance of tourism to national and regional economies, comprehensive data describing this sector is essential for both government and private industry, as well as for other organizations responsible for policy formation and promotional activities in the general field of tourism. The WTO state that statistics in tourism are “the most important indicators required by policy makers, planning officials, marketers and researchers for monitoring and assessing the impact of tourism on the national economy” (WTO, 1994 cited in Peerapatdit, 1999, p.3).

The definition of tourism as promoted by WTO as “the activities of persons travelling to and staying in places outside of their usual environment for not more than one consecutive year for leisure, business and other purposes” is crucial in providing the basis for the concept of tourism expenditure statistics (WTO, 1995, p.9). A particular future of this definition is that tourism, in contrast to other industries, is defined in demand side terms. An industry is traditionally defined in supply side terms and it is easy to compute the final output by summing up production units. In contrast, the consumption of tourism is indirect and as such the measurement of the sector and the collection of data needed for this is more complex. In essence, most of the tourism data is gathered through demand surveys, which involves the collection of information directly from the tourists. The current methods applied to gather tourism expenditure fail to provide the accuracy and level of detail required by tourism decision-makers. There are many methodological problems associated with all approaches and such issues are a key feature of this chapter.

While there is an impressive body of literature on the estimation of the economic impact of tourism, there is little research into the nature, collection and pre-analysis adjustments of the data used (Vaughan et al, 2000). This chapter aims to review the issues relevant to the collection of tourism data and inter alia discusses different methodologies for data collection (and pitfalls) and also highlights the main reasons why the production of good data is vital for the main stakeholders in tourism. The diary
method, rarely adopted in the tourism research community is introduced as a potentially more accurate alternative to the conventional methods and as a supplementary source of data to conventional methodologies. This method has been successfully applied in studies in areas of research outside of tourism. A review of these studies will be provided, drawing upon evidence related to the main benefits and methodological issues associated with diary implementation. This chapter will also present the main findings derived from studies comparing the diary method with other techniques and provides some general conclusions.

4.2 Tourism Statistics

In an important contribution to the debate on tourism, Costa (1995) concludes that the tourist market is continuously changing and it is facing new challenges: the increase of independent travellers, a progressive shift away from holiday packages and the growth of long haul and short break tourism. Consequently, decision-makers need to be more sensitive to changes in tourists’ needs and the existing tourism products have to be tailored accordingly, or new products have to be developed in order to suit the changing demands of tourists. In an ever-changing marketplace the only way for companies to stay competitive is to have decision-making that is informed by good data.

This section describes the current statistical system in tourism. Following a short history of the development of tourism statistics, the main organizations responsible for the production and dissemination of tourism data at both national and international level, as well as the main users and their needs will be discussed. The section will also focus on the main criticisms and concerns surrounding tourism data and will elaborate on how these issues can be addressed.

4.2.1 What are Statistics and Why Do We Need Them?

The word statistics derives from the Latin “status” or political state and the German “statistik” – facts and figures for use of the state (Slattery, 1986). Despite the early development, statistics were not properly organized until the scientific revolution in Europe in the 17th century and the growth of European nationalism. It was the time when every national state became determined to gather as many facts as possible about population structure/size, trade, finance, taxes and the armed forces. According to Fellegi (1996, p.165), the main objective of the national statistical system is “to provide
relevant, comprehensive, accurate and objective statistical information” for the purpose of “monitoring the evolution of the county’s economic and social conditions, the planning and evolution of government and private sector programs and investments, policy debates and advocacy, and the creation and maintenance of an informed public”.

Good statistics, collected according to agreed good practice, applying appropriate methods for data collection, processing and dissemination, are crucial as a tool for decision-making in all sectors of a national economy. Despite being relatively neglected as a sector to the mid 20th century, tourism became an increasingly important factor in world trade and a significant element in the balance of payments of many countries in subsequent years (Burkart and Medlik, 1981). In some countries, tourism has grown faster than the trade in goods, and so contributed significantly to GDP, employment, economic growth and in some countries even to the social development (Volo and Giambalvo, 2006). The following section reviews the historical development of tourism statistics, the current status and the main issues encountered in tourism measurement.

4.2.2 The Current State of Tourism Statistics

The role of statistics in tourism is stressed by the 1993 UN/WTO Recommendations as “the most important indicators required by policy makers, planning officials, marketeers and researchers for monitoring and assessing the impact of tourism on the national economy” (WTO, 1994 cited in Peerapatdit, 1999, p.3).

4.2.2.1 Short History

The statistical measurement of tourism is a relatively recent activity (Latham and Edwards, 2003). Lickorish (1997) provides an analysis of the development of tourism statistics. The first collection of international statistics was published by the British Travel Association in 1949 and included 46 countries. The year 1963 marks the first attempt to introduce a recognised uniform international system for tourism statistics when an Intergovernmental Conference on Tourism approved basic definitions and methodologies. The focus was predominantly on international traffic as domestic movement was considered of little importance. The data was in most cases obtained by official control systems, e.g. passport-checks at frontiers or hotels and other accommodation records. The author noted the insignificant changes in the official systems for a period of at least 25 years. However, the great potential for growth and
increasing economic and social importance of tourism that developed since the end of the Second World War required improved methods for measurement and analysis. The author also stressed the work of the WTO as the most significant and important body that attempted to develop a more consistent and methodologically sound approach to the development of a data system for tourism. The WTO’s main role has been “to provide definitions and methodology, a common language for tourism, as a basis for comprehensive and compatible measurement that had so far been unachievable” (WTO, 1993 cited in Lickorish, 1997, p.492). The WTO has also been the main driving force behind the Tourism Satellite Account initiative.

According to the UNWTO (2007, p.2), in the 1980s “there was an increased awareness of the importance of tourism and its interdependence with other economic and social activities”. Hence, more focus has been placed on improving the tourism statistics. The WTO in close collaboration with the UNSD initiated a process of revision of the definitions and classifications used in tourism statistics. The main purposes of the initiatives were 1) to suggest modifications to the definitions and classifications used in studies of tourism to make them compatible and consistent with those of other national and international statistical systems and 2) to take actions towards the incorporation of tourism into the analytical framework of national accounts. Following the International Conference on Travel and Tourism Statistics held in Ottawa in 1991 (which gave the opportunity to share the experience of different countries in relation to the implementation of the system of definitions and methodologies), numerous new initiatives for data collection were specified. The UNWTO adopted a statistical program intended to monitor the development of a common conceptual framework integrated with the system of national accounts, the Tourism Satellite Accounts (TSA). The TSA is a mechanism to provide more credibility to the measurement of tourism and provide comparability with the measurement of other economic and social activities. The TSA is now the internationally accepted methodology for the comprehensive measurement of tourism in an economy and once fully adopted will facilitate cross-country comparisons.

Within the European Union, an important role has been played by the Statistical Office of the European Communities (Eurostat) which amongst others developed programs and carried out studies on tourism statistics. One of the most notable contributions was
the 1995 Council Directive on the collection of statistical information in the field of tourism. The purpose of the directive was to unify and improve statistical data collected by EU member states.

4.2.2.2 The Purpose and the Users of Tourism Statistics

Tourism is a social, cultural and economic phenomenon, which is constituted by the movement of people outside their usual place of residence in search for pleasure, business, cultural or political exchanges, and for other reasons. An accurate account of these movements, both at international and domestic level, is essential to enable planners and developers to study patterns and evaluate the general contribution of the tourism sector in general.

According to Massieu (2003), a system of tourism statistics generates information relative to different spheres of analysis. These spheres and the main sources of data can be summarized as follows:

- General tourism activity at national level: The standard sources of information are the Balance of Payments and registers of arrivals of non-resident visitors. It is the most traditional approach and is macroeconomic in nature;
- Domestic, inbound and outbound activity: The main source of information are travel surveys designed specifically for this purpose;
- Activity of tourism enterprises: The typical source of information is the national statistical office and the aim is to reflect the gross business characteristics of tourism enterprises and
- Follow-up and/or design of tourism products: The main sources of statistical information are demand surveys.

Statistics related to tourism include tourist flows, characteristics of tourists such as socio-demographic background and trip-related characteristics, accommodation occupancy rates or bed nights, expenditure such as average total cost or average spending per person per day and expenditure on different spending categories, e.g. accommodation, shopping, food and drinks, transport and entertainment. All key actors in the tourism area (suppliers of tourism services, financiers, planners and researchers) make regular and extensive use of tourism statistics (Edwards, 1991). According to
Massieu (2003) the possible users of tourism statistics correspond to a very varied
typology and can be classified as follows:

- The central administration;
- The regional administration, which in many cases has specific competences relative to various areas of tourism development;
- Various units responsible for tourism promotion;
- Business associations and sector unions;
- Enterprises that provide tourism activities;
- Specialized consultancy firms;
- Institutional investors; and
- University departments.

The vast variety of tourism and the wide array of actual users imply that a successful statistical system would need to provide data that is suitable for all these needs. Governments’ are mostly interested in the aggregate figures related to inbound and outbound tourism, mainly for the purpose to determine the effect on the balance of payments. However, Cooper et al (2008 p.74) point out other important reasons for the interest of government in tourism statistics. For instance, the authors stressed the importance of official records related to trends in movements for monitoring the effectiveness of a tourist board and for the assessment of promotional campaigns over time.

Tourism statistics also help public officials to develop laws and policies that best promote the economic, social and cultural health of their citizens (Frechtling, 2006). Accurate information related to the economic, social and environmental value of tourism is particularly important in countries where “tourism priorities are established in contrast with other obligations of government” (Allnutt, 2004, p.4). Business associations, enterprises that provide tourism products as well as units responsible for tourism promotion at local level are particularly interested in detailed figures. This data is essential for planning, development and marketing purposes, since it allows: 1) the identification of those forms of tourism that should be supported and those that should
be discouraged; 2) to target the most profitable segments, targeting products and themes (Allnutt, 2004); 3) to monitor the effects of changes; 4) to forecast future demand (Cooper et al, 2008); and 5) “to assist tourism marketeers in evaluating the effectiveness of their efforts and the effects of additional facilities on demand to the current ones” (Frechtling, 2006, p.1).

In addition to the foregoing benefits identified, Frechtling (2006) notes that tourism statistics also help to: educate tourism-related employees about the role they play in economic and business development; to increase the awareness of tourism-workers of their contribution to the economic health of their communities. The author also stresses the benefits for local citizens since only a well-informed public can rationally choose to encourage or discourage further tourism development.

In conclusion, comprehensive tourism statistics are essential for both government and the private sector, since accurate data provide a basis for making efficient marketing and development decisions.

4.2.2.3 The Organization of Tourism Statistics

*International Level (European Level)*

The main sources of data on international tourism are the World Tourism Organisation (WTO) and The Organisation for Economic Cooperation and Development (OECD) and to a lesser extent the International Monetary Found (IMF). The OECD and the WTO have a leading role in the collection, collation and publication of international travel statistics. However, these organizations are just editors and commentators, and not data-collection agencies. Virtually all of the original figures are provided by the national governmental control or census systems of each contributing country or region, which are sometimes supplemented by surveys of expenditure and domestic and outward traffic (Lickorish, 1997).

Since 1990, the WTO and the OECD have played a crucial role in the initiative to improve the quality of tourism data. Acknowledging the problems related to international tourism statistics, the WTO and the OECD together with the EU Statistical Agency (Eurostat) have devoted increasing attention to definitions and methodologies and to studies to improve basic data (Lickorish, 1997). Data on international tourist
expenditure is usually collected either by the bank reporting method or by the visitor sample survey method. All European Community members except the UK and Ireland use the bank reporting method. The Central Bank collects data on the volume of foreign currency represented by bank notes, traveller cheques and other financial instruments. While this method has the advantage of being relatively easy to compile, it is subject to some concerns related to the level of accuracy (O’Hagan and Waldron, 1987). The visitor sample survey is believed to be less open to consistent bias than the bank reporting method, but still lacks exactness and is far more expensive to conduct.\(^{20}\).

One of the major benefits of an internationally agreed methodology for statistics on tourism is that it facilitates cross-country comparisons that were impossible in the past (due to various and incompatible methodologies). The WTO and the OECD publish annual tourism statistics at international level in the “Yearbook of Tourism Statistics” and “Tourism Policy and International Tourism in OECD Member Countries”, respectively. The first volume provides a summary of the most important tourism data for 190 countries, while the second is limited to statistics covering the OECD member countries only and is focused on government policy and planning (Latham and Edwards, 2003).

**National Level**

Individual countries require statistical data to inform policymakers of marketplace trends for volume and value of the main tourism indicators. Ideally, this data helps to inform decision-making and policy. The national statistical system comprises a series of statistical functions that correspond to a group of bodies that conduct statistical work for the purpose to provide reliable, consistent and appropriate data relative to the socio-economic structures and development of a country (Massieu, 2003). Generally, the central statistical office (CSO) of a country is the body responsible for the production of statistics for different industries and sectors at national and regional level. Statistical offices are mostly concerned with the collection of broad macro data. While this data is necessary for Balance of Payments purposes, it is often not useful for operators in the tourism sector who are more interested in the disaggregated data. As a consequence, in

\(^{20}\) A more detailed description of the methods applied to collect tourism data will be provided in section 4.1.4.

\(^{21}\) often referred to as the “Blue Book”
some countries, tourism boards have been established and part of their task(s) is to supplement data provided by the national statistical offices. In general, tourism boards collect a higher variety of data in an attempt to satisfy a multitude of user needs.

**4.2.3 Critique of Tourism Statistics**

Statistics related to trends in tourist arrivals, expenditure, accommodation occupancy or market shares are used for everything from planning promotional campaigns to computing the economic impact of tourism to the national economy (Edwards, 1991).

According to Massieu (2003, p.10) most of the information on the nature, progress and consequences of tourism is based on statistics related to arrivals and overnight stays or on information from the Balance of Payments, which do not reflect “the whole economic phenomenon of tourism”. Pointing out the lack of valid information about the role tourism plays in national economies, the author stressed the need for more credible data related to the scale and significance of this sector. The poor quality of tourism statistics was also outlined in a review of tourism statistics in the UK, the conclusion of the review stating, “…there is no other sector … as significant as tourism in which the key strategic and management decisions are so hampered by a lack of adequate data” (Allnutt, 2004, p.4).

In a report released in 1992, the World Travel and Tourism Council \(^{22}\) (WTTC) stressed that the main reason for the tourism sector receiving only little acclaim, despite the sector’s continuous fast growth, is the way in which governments compile their economic results (Lickorish, 1997). In a debate concerning whether tourism can be considered an industry or not, Smith (1998) argued that one of the barriers in the acceptance of tourism as an industry is the lack of credibility with the tourism statistics. Smith (1998) further points out that to some extent, the credibility problems in tourism data arise from the quality of data sources, inappropriate sample sizes, the reliance on the recall method and other methodological issues that affect the precision, accuracy, validity and reliability of the results.

\(^{22}\) The WTTC is a body representing the largest commercial companies in world travel.
There is a general agreement on the poor quality of tourism statistics. Despite the major efforts focused on improving their reliability, concerns still exist particularly about the methods used to collect data at local and national level (Latham and Edwards, 2003).

Generally, tourism data can be collected before, during or after the trip has been consumed. Latham and Edwards (2003) point out serious doubts on the reliability of data collected since 1) “intention studies” (before travel) are likely to collect “information that is at variance with the reality that occurs at a later time” (p.56); 2) information collected at a point in time during travel is a mixture of actual and intended behaviour; while 3) post travel surveys are confronted with problems associated with “individuals finding difficulty in accurate recall” (p.56). Therefore, there are many methodological problems remaining in the measurement of tourism.

The inconsistency in definitions and units of measurement as well as the absence of an agreed methodology represent another important issue. The methods applied to gather tourism data as well as the procedure used to compute the economic impact of tourism differ from country to country, which makes a comparison difficult. However, this problem starts to be less of an issue nowadays due to the adoption of the recommendations of the WTO. Clear boundaries between a tourist and a non-tourist as well as clear delimitation of the units of measurement have been established. The following section provides some information on the steps taken by the WTO in an attempt to improve the quality of tourism data and to provide an uniform framework for tourism measurement.

4.2.4 TSA – A Solution to Criticism?

The WTO has played an “important guiding role in the design of the statistical tourism systems” (Massieu, 2003, p.7). Together with the OECD, the WTO made considerable efforts to provide recommendations on tourism statistics and encourage countries to adopt the international standards. In the 1990s, Canada, the United States and Australia were in the vanguard of WTO developments and carried out reviews of the consistency of their systems of tourism statistics with the international standards and took steps to implement changes to ensure greater harmonization (UNWTO, 2007). The WTO provided technical assistance to many countries and contributed to the development of tourism statistics through the preparation of technical manuals on various topics related
to tourism data such as concepts, definitions, classifications, methods for collecting and compiling tourism statistics, tourism expenditure, domestic tourism (Massieu, 2003).

Measuring the economic contribution of tourism to a national economy had been difficult prior to the introduction of the TSA. Unlike output-defined industries such as manufacturing, the demand-defined sector of tourism is not measured in the national accounts as a distinct entity (Smeral, 2006). According to Meiss (2001), data related to economic activities associated with tourism exist, but they are highly fragmented, dispersed and incoherent as a whole. In addition, different countries use different measures, definitions and methodologies to measure tourism contribution at different times, which prevent valid comparisons among nations or for the same nation over different periods of time (Frechtling, 1999).

The TSA initiative is a major step to counter the aforementioned difficulties. The TSA is “essentially a conceptual framework for understanding tourism from a macroeconomic perspective” (UNWTO, 2007, p.86). After a positive experience with implementing the new framework in Canada, both the WTO and the OECD have developed generic versions of the TSA. Ultimately the two versions were harmonized into a common conceptual framework that was approved by the United Nations Statistics Commission as a new international technical standard (Meiss, 2001). The tourism satellite account comprises “a set of economic accounts integrated with each other and with the overall system of national accounts” capable to accurately determine “the economic implications of tourism relative to the rest of the economy” (Frechtling, 1999, p.167). Many countries around the world have adopted the TSA or are in various stages of implementing the standard as a means to better measure tourism economic impacts. More than 70 countries have adopted the TSA at a national level and some countries are even investigating the feasibility of implementing the standard at a regional level. Ireland completed a first draft of a TSA in 2004, a project realized by the National Centre for Tourism Policy Studies (NCTPS), University of Limerick in collaboration with Centre for Policy Studies, University City Cork.

Despite the general agreement about the importance of TSA for an accurate measurement of tourism, there are a number of practical and conceptual challenges (Smith, 2004). One of them is related to data requirements. The substantial amount of
high-quality data required on both supply and demand, make the implementation in countries lacking an adequate statistical infrastructure a difficult task (Smith, 2004). Even in those countries that already developed good statistical systems to collect, process and report data, the level of precision required to implement the TSA might not be met. In addition, the credibility of tourism data is generally low, often because of the quality of data sources. Problems associated with the methods used to gather tourism data like recall error, inadequate collection instruments, inappropriate sample sizes, and other methodological details affect “the precision, accuracy, validity, and reliability of tourism statistics” (Smith, 1998, p.34).

The following section provides a review of the main methods applied to gather tourism data, pointing out the main advantages and disadvantages of the various approaches.

4.2.4 Tourism Expenditure Data Collection Methods

According to the WTO (1995, p.3), “tourism expenditure is defined as the total consumption expenditure made by a visitor or on behalf of a visitor for and during his/her trip and stay at destination”. International tourism expenditure, which is of interest for the purpose of the current research, is defined as “expenditure of international inbound visitors, including their payments to national carriers for international transport” (WTO, 1995, p.4). The collection of expenditure data is particularly important since the assessment of the economic impact of tourism on local and national economies starts with the analysis of the expenditure of tourists at the destination. The economic impact of tourism is a function of the expenditure patterns exhibited by tourists. Citing Mihalic (2002), Frechtling (2006, p.27) stresses the importance of the measurement of tourism expenditure since “consumption of tourism is at the centre of the economic measurement of tourism and […] is essential for understanding tourism’s economic impact”. Attempts to gather information on tourist expenditure patterns were traditionally performed through a number of sampling instruments such as frontier controls, household surveys, reports from the banking institutions, reports from accommodation establishments and occupancy surveys, statistics on visitors to attractions, in-flight and on-board surveys and consumer research. The diary approach was adopted only occasionally. The most popular methods to gather data on international tourist receipts are records from central banks, tourism establishment surveys and different forms of visitor surveys.
4.2.4.1 Central Bank Data

The collection of data on the amount of national currency sold to visitors by central banks in the destination country is the base of the bank recording method. Lickorish (1997) recommends careful treatment of estimates based on data provided by bank recording systems since bank records can be unreliable in the estimation of total receipts and payments. Despite the simplicity in the collection of expenditure data, this method poses a number of problems and include inter alia how to identify a transaction as being a tourism transaction, the omission of relevant transactions and the unreliability of the method for measuring receipts from specific origin countries (Song and Turner, 2006). In addition, as Frechtling (2006) noted, the bank reporting method can provide only estimates of the total international visitor spending at the national level. It does not provide estimates of the expenditure for different spending categories or estimates for regional areas. In Europe, this method enjoyed high popularity in the past, being the preferred method in 11 countries (Ortolani, 2000 cited in Frechtling, 2006); all the members of the EC except Ireland and the UK relied on estimates provided by bank records (O’Hagan and Waldron, 1987). However, the adoption of the EURO as the single currency in 2001 reduced the usefulness of the method since it became impossible to track international travel receipts and expenditure from countries sharing the same currency.

4.2.4.2 Tourism Establishment Surveys

An establishment can be defined “operationally as an enterprise or part of an enterprise that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added” (UNWTO, 2008, p.54). In tourism for purposes of supply side statistics, establishments are classified according to their main activity, i.e. the activity that adds the most value, in accommodation establishments; food and drinks establishments, e.g. restaurants; travel agencies and so on. Some countries make use of data collected through registration at accommodation establishments or receipts from restaurants to assess the total tourism spending. While this data collection method presents the advantage of providing estimates at a regional level, i.e. the area where the establishments are located, there are a number of drawbacks that make it less reliable. Frechtling (2006) noted the following difficulties encountered in the use of
establishments surveys: 1) it is difficult or even impossible to distinguish visitor receipts from residents' receipts; 2) coverage errors might happen by not including all the establishments where visitors spend money; 3) the method is unable to provide any information on the number of visitors, length of stay or origin; and 4) the reluctance of managers to share the information.

4.2.4.3 Visitor Surveys

Since tourism is a demand side activity, the most direct method of collecting expenditure data is by surveying the visitors themselves while in the destination country/region. According to Wilton and Nickerson (2006), visitor expenditure reported through visitors can provide an accurate basis for economic impact analysis and comparison with other industries. Visitor surveys can be conducted when tourists enter an area (entry surveys), when they leave an area (exit surveys), while they are in the area under study (on-site surveys), or while on the way to the destination when tourists travel by airplane, train, bus, or ship (on-route surveys) (Frechtling, 2006 referring to Chhabra et al, 2003; Daniels et al, 2004 and Crompton et al, 2001). Each of these surveys has strengths and weaknesses in terms of logistics and cost effectiveness. Particularly severe problems might arise in countries without border formalities. Countries lacking an extensive control of travellers at national borders often use, as a substitute, surveys of guests at collective accommodation establishments. As regards the suitability of these methods to collect expenditure data, Frechtling (2006) states that entry and en-route surveys are the least satisfactory since tourists can only report the intended amount to be spent during the trip.

One of the most common visitor surveys is the border survey where tourists are interviewed as they enter or exit the country. This includes surveys at the frontiers or at entry and exit points like airports and seaports. As Christensen and Rideng (2001) noted, the literature on border surveys is scant, most of the studies being descriptive in nature and being limited to illustrate how the surveys were carried out and to point out problems areas one should be aware of (Hurst, 1994 cited in Christensen and Rideng, 2001). The authors noted that border surveys usually have two major objectives: 1) to estimate the aggregate number of visitors by country of residence, means of transport, length of stay, type of accommodation; and 2) to collect more detailed information on travellers including expenditure figures. Usually tourists are approached when they
leave the destination and are asked from memory to cite total spending and the expenditure for different spending categories like accommodation, shopping, food and drinks, transport and sightseeing and entertainment. Generally the purpose is to get accurate figures from a random sample of visitors and to extrapolate the results to the entire population. Unfortunately, studies focusing on the methodological issues and the uncertainty of the estimates are very rare (Bruce and Eliot, 1993 cited in Christensen and Rideng, 2001).

Frechtling (2006) notes (that due to the nature of tourism expenses) it is not straightforward to establish an estimate of the mean expenditure per person per day. For instance, expenditure on accommodation and some kind(s) of transport like car hire and cab fares can be collective receipts, hence accurate definitions of the unit of analysis exist. Expenditure is usually collected for a travel party which includes all members of a travel group sharing a common budget i.e. family, friends and for the entire trip (Long and Perdue, 1990). As a consequence, accurate information on the size of the travel party and length of stay is needed for the computation of average spending per person per day.

While there is a general agreement that collecting data straight from the visitor is the most reliable method, there is a continuous debate about the most suitable instrument. Personal interviews and self-administered questionnaires are the most frequently used survey instruments, and diaries and online surveys are only very rarely used. Despite the advantages of high response rates and maximum assistance in understanding the questions in the case of personal interviews, and low cost of data collection for the questionnaire-based method, both methods are subject to limitations which make them unsuitable for collection of accurate data.

Strengths and weaknesses are generally associated with all data collection techniques and the subsequent estimates are subject to all of the errors inherent in survey design. According to Stynes (1999), accurate estimates of the average tourist expenditure from a sample survey require reliable and valid measurements from a representative sample of the population. Since data is gathered only from a sample of the population and the results are then extrapolated to the entire population, errors are likely to occur. Generally, there are four types/ sources of errors in spending surveys: measurement
errors, errors caused by non-representative samples, sampling errors and analysis and reporting errors (Stynes, 1999, Stynes and White, 2006).

As Cole (2005) noted, one of the main concerns of survey research is the errors which potentially influence the validity and reliability of the results and conclusions. While errors due to inappropriate sampling procedures or inadequate analysis are common to all kinds of surveys, the measurement errors are of special concern for expenditure surveys. According to Stynes and White (2006, p.10), “measurement error is the difference between the spending reported by subjects on the survey instrument and what they actually spend”. Recall and telescopic errors are the most common measurement errors. Recall errors happen because of the inability of subjects to recall all the expenses, while telescopic errors occur when expenses outside the study areas or time frame are reported. Stynes (1998) noted that recall error is the most likely error to occur in tourist expenditure surveys. Hence the accuracy of expenditure data heavily relies on the ability of participants to recall spending accurately.

4.2.4.4 Criticism of the Traditional Methods

According to Vaughan et al (2000, p.97), “the validity of any measurement process depends on the method of measurement and the quality of the data used, a topic […] which has received scant attention in the literature”. As previously discussed, tourism spending estimates are based almost entirely on data reported by tourists themselves. One of the main issues for data users is how accurately tourists can recall expenditure associated with a certain trip (Howard et al, 1991). While there is an impressive body of literature on the estimation of economic impact of tourism from data, there is little research into the nature, collection and pre-analysis adjustments of the data used (Vaughan et al, 2000).

As previously discussed, the doubts concerning current expenditure surveys revolve around the issue of recall-error that consist of at least three types of errors, namely the omission errors, the telescoping effect and finally the inability to recall particular items of expenditure (Faulkner and Raybould 1995). Faulkner and Raybould (1995) suggest the potential for recall error is a major concern, seriously affecting the reliability of data on trip expenditure. The ability of tourists to accurately recall expenditure from a past visit is weak. Memory decay of long-term memory weakens the validity of responses,
increasing the likelihood of errors. A common assumption is that visitors can accurately remember their expenditure in exit or other post-trip surveys without any incidence of memory decay. This assumption has not been found correct in detailed studies such as Pearce (1982, 1988), Frechtling (1987, 1994), Howard et al (1991), Faulkner and Raybould (1995) or Zhou (2000) who found that the ability to recall past expenses is not as high as previously believed. As Frechtling (1994, p.370) states “it is difficult to believe the traveller can remember each of the cash or non-cash purchases he makes, and the amount as well”.

Previous studies indicated that a major problem associated with estimating visitor expenditure is the issue of time. Zhou (2000) stressed two issues: 1) how the elapsed time affects the accuracy of reported data; and 2) how the time between when the expenditure occurred and the moment when respondents are asked to recall trip expenditure affects the direction of the error, i.e. whether it is an under- or overestimate. Evidence from previous research reveals that the accuracy of answers is significantly affected by the passage of time. Rylander et al (1995) attempted to assess the recall bias by asking participants to indicate levels of perceived accuracy in reported trip expenditure. The results revealed that the perceived accuracy of self-reported spending was related to the time of completion of the mail-back questionnaire, respondents on the third wave showing the least confidence in the accuracy of their figures. Similar results have been obtained by Frechtling (1987), Howard et al (1991) and Mak et al (1977), who also found significant inaccuracies in the reporting of trip expenses with the passage of time. Previous research on recall bias has indicated that errors are usually caused by spending under-estimation (Wilton and Nickerson, 2006). Mak et al (1977), Frechtling (1987), Howard et al (1991), Stynes and Mahoney (1989) found that the longer the length of time elapsed between the visit and the recording of expenditure, the more likely respondents will underestimate trip spending.

In a study highlighting the dearth of reliable financial data relating to the tourism sector, O’Hagan and Waldron (1987) criticised the current methods employed by the statistical bodies and recommended a diary approach as a more reliable alternative. Subsequently, similar calls for the adoption of diaries were made by Howard et al, 1991; Frechtling, 1987; Mak et al, 1977).
4.3 Diary Method

Despite the criticism surrounding the traditional, recall-based methods applied to gather social data, this is still the dominant methodology in the social sciences, largely on grounds of time and cost. While the(se) methods can be highly revealing about perceptions of past and present events or activities, they fail to provide an accurate account of repeated actions (Johnson and Bytheway, 2001)\textsuperscript{23}. According to Dingwall (1997, cited in Johnson and Bytheway, 2001), without the aid of relevant documentation, the accountability of these actions is totally dependent upon the interviewee’s recall. As Kemsley (1965, p.121) states “the unreliability of memory is one of the hazards met with in a factual survey where informants are asked to recall past events, and which therefore are not observable by the interviewer”.

In contrast to recall-based methods, the diary method has “the potential to offer the researcher an accumulating account of such actions” (Johnson and Bytheway, 2001 pp.184). According to Lee (1993, p.114), “diaries provide an appropriate data collection method where one wants to measure activities over time, the frequency or salience of which makes recall difficult”.

The purpose of the current section is to provide a review of the diary method. A definition, a short history of development and a brief description of a diary will be provided first. Following this, the advantages and disadvantages of diaries will be analysed. Previous studies employing a diary approach will be reviewed and the main findings reported.

4.3.1 Diary Definition and History

One strategy that may help overcome many of the problems associated with recall-based methods is the use of personal diaries. “The diary is the document of life par excellence, chronicling as it does the immediately contemporaneous flow of public and private events that are significant to the diarist” (Plummer, 1983, cited in Symon, 2004, p.98). According to Alaszewski (2006) the defining characteristics of diaries include:

\textsuperscript{23}daily consumption and the associated expenditure, activities undertaken on a daily basis, medicine-taking, change of feelings and symptoms, etc


- **Regularity**: The diary includes regular and dated entries over a period of time which can be fixed time intervals (daily) or linked to specific events;

- **Personal**: The diary is kept or maintained by an identifiable individual who controls access to the diary;

- **Contemporaneous**: A diary is filled in at the time or very close to the time when activities or events occurred to avoid distortions caused by recall;

- **A record**: The records in the diary reflect what an individual considers relevant and important and may include a large variety of phenomena like events, activities, interactions and feeling. While the usual form of the record is a time-structured written document, other forms like audio or audiovisual recording are also possible.

Diaries developed as a recognizable method of keeping personal records in the early modern period in sixteenth century Europe (see Alaszewski, 2006). Over the seventeenth century, diary writing increased in popularity and covered an array of different functions. The development of diaries during this period was underpinned by technological and socio-economic changes such as the widespread development of writing skills and a more literate population, changes in the education system, cheaper paper, the fragmentation of Christianity in Western Europe and the rise of Protestantism with a greater emphasis on individualism (Alaszewski, 2006). From the nineteenth century onwards, diary keeping had become a “conventional habit among persons of culture”, providing “an enormously detailed picture of life […] and reflect contemporary attitudes and values with great fidelity” (Fothergill, 1974 cited in Alaszewski, 2006, p.9).

Despite the increased popularity of the diary as an individual instrument for recording and commenting on events and activities during the seventeenth century, public access to diaries did not develop until the nineteenth century when publishers recognized a market for personal records. The increased public interest in the major scientific discoveries had created a market for the use of diaries as a record of facts, e.g. facts from expedition voyages. Daily or regular records have long been recognized as useful (Duck, 1991), but the usage of diaries as a way to collection of data materialized only throughout the twentieth century when specific categories of research diaries emerged (Johnson and Bytheway, 2001).
In the distant past, diaries were usually considered by many biographers, historians and literary scholars to be of major importance for telling history, but more recently, sociologists have recognized the potential of using personal documents to construct pictures of social reality from the actors’ perspective. In contrast to these 'journal' type of accounts, diaries are used as research instruments to collect detailed information about behaviour, events and other aspects of individuals' daily lives. (Corti, 1993). According to Symon (2004, p.98), the growing interest in applying diaries as a research method “has tended to be from (within) a positivist paradigm, focusing on quantified measurement”. A research diary is not a diary in the conventional sense of a “journal”, but rather it contains “records of events, activities, thoughts and feelings recorded according to some pre-determined plan agreed between the researcher and diary-keeper”(McQuenn and Knussen, 2002, p.34). According to Robson (2002), a diary, as a research tool, can be considered as a type of self-administered questionnaire and it can range from a totally unstructured format to a set of responses to specific questions.

Based on a positivist approach, most of the published diary studies use structured and quantitative measures, focusing on repeated measures of phenomena specified by the researcher (Symon, 2004). Corti (1993) pointed out some of the advantages of diaries over other data collection methods: 1) diaries can provide a reliable alternative to the traditional interview method for events that are difficult to recall accurately or that are easily forgotten; 2) they can help to overcome the problems associated with collecting sensitive information in a personal interview; 3) they can be used to supplement interview data to provide a rich source of information on respondents’ behaviour and experiences on a daily basis.

Despite the multiple advantages over traditional methods, diaries are, unfortunately, not problem free. Low response rates, conditioning effect and fatigue as well as higher costs were seen throughout the years as a constraint on using diaries. The following sections will provide a description of the main advantages and drawbacks of the diary method.

4.3.2 Advantages of Diaries

The major benefit of diaries is the dramatic reduction of retrospection due to the minimization of the amount of time elapsed between an event and the account of this event. According to Lyberg and Kasprzyk (2004), in a properly implemented diary,
information about an event should be recorded soon after its occurrence, leading to less reliance on memory in the data gathering process. Diaries are particularly useful for collecting information related to events that are difficult to recall accurately or that are easily forgotten (Corti, 1993) because they provide a means for instant collection of the data. Reis and Collins (2000, cited in Fu, 2007) stress that diaries enable researchers to minimize distortion caused by bias in recollecting, selecting and summarizing across many events.

The ability of people to accurately recall past events has been proved to be weak. This is usually exacerbated by a poor ability to provide summaries or aggregated accounts of past experiences. Gershuny and Robinson (1994) provide some evidence in a study of time use, where they obtained aggregate activity times of more than 168 hours per week thus showing the poor ability of subjects to aggregate time spent in different activities. In contrast, diaries do not require participants to summarise, aggregate or average experiences or behaviours (Frick and Clark, 2006), hence the results are less dependent on the respondents’ calculation and augmentation, producing more accurate measures.

The term diary method refers to any data collection technique that “entails respondents to record information about their subjective experiences, cognitions, behaviours and social interaction linked to a temporal framework” (Thiele et al, 2002, p.2). By incorporating the time element, the diary method has the major advantage of allowing the investigation of temporal dynamics (Bolger et al, 2003). Breakwell (2006, p.260) stressed that “the greatest advantage of the diary approach is that it yields information which is temporally ordered”, showing the sequence of events and indicating the profile of activities or experiences across time. By capturing the experiences over hours, days or weeks, diaries enable an analysis of variation in behaviour over time. Hence questions like “Does the variable of interest fluctuate from morning to night, or from one day to another one; or does it behave different during the weekends compared to week days; or have a certain growth or descend visible over weeks or months?” can be adopted (Bolger et al, 2003, p.582). These questions might be more difficult or impossible to answer through data collected retrospectively.

Zimmerman and Wieder (1977) spotted the potential of a diary method as a good alternative to research fieldnotes in ethnographic research because of the ability to
capture the time element. The advantage is that participants are able to record the events in (their) naturally occurring sequence on a continuous basis, whereas fieldworkers might only be present at restricted times (Bloor and Wood, 2006). Verbrugge (1980) also pointed out the major benefit of the diary as a provider for time-series data for each individual in health-related research. The author stressed that diaries have “a rich analytic potential for analyses over the whole diary period or for day-to-day analyses” (p.86).

According to Reis (1994, cited in Bolger et al, 2003), another fundamental benefit of the diary method is that it allows the examination of events and experiences in their natural and spontaneous context. This aspect is particularly important in some areas of research like psychology and health, where information about contextual/situational factors within which behaviour occurs is of major importance and it is hard or even impossible to obtain through recall-based techniques. For instance, in a diary study investigating the occurrence, antecedents and consequences of stressful marital interactions, Halford et al (1992, cited in Laurenceau and Bolger, 2005) found that particular settings, topics and activities were associated with the occurrence of stressful interactions, which the subjects of the study were not even aware of.

Breakwell (2006) found that familiarity is another advantage associated with the diary method because respondents are typically accustomed with the notion of keeping a diary. Although careful instructions must be enclosed, the method enjoys the advantage that subjects have some initial appreciation of the task since participants have generally a high understanding when they are required to keep a diary of activities of a specific kind over a period of time (Breakwell, 2006). As Fu (2007) indicates, since diary keeping is an easy, familiar, nonintrusive, everyday task for many people, participants tend not to be anxious or suspicious about the approach.

To summarize, the adoption of a diary approach brings significant improvements over the more conventional, recall-based methods. The most important benefit of using diaries is the dramatic reduction of retrospection due to the minimization of the time elapsed between the moment an event occurred and the recording in the diary. In addition, by completing the diary soon after an event occurs, it allows for the accountability of those experiences that are easily forgotten. Furthermore, diaries record
events as they occur and do not require the participants to summarize, aggregate or average experiences. Hence, data is more accurate by being less reliant on the ability of respondents to calculate or summarize. Another major benefit is that diaries give a temporal and spatial dimension to data allowing for the analysis of variations in behaviour over time and space, which is impossible with data collected retrospectively. Finally, familiarity and the possibility of recording the events in their natural context are also advantages particularly important in areas such as psychology and medicine.

4.3.3 Potential Issues Associated With the Diary Method

Errors are likely to occur in all surveys regardless of the instrument used to gather the data. The diary method is not problem free. In addition to the types of errors that are common in all survey methods, diaries, as Corti (1993) pointed out, may be prone to errors arising from respondent conditioning, incomplete information being recorded, inadequate recall, insufficient co-operation, sample selection bias and inadequate design (Silberstein and Scott, 2004). These issues will be addressed in the following sections.

4.3.3.1 Length of the Diary Keeping Period

Reviewing relevant literature, Kemsley (1979) identified various factors that might lead to bias in diary keeping. One of the factors relates to the period of time the participants are asked to make entries in the diary. To avoid an extra burden on the respondent the diary-keeping period should not be too extensive, but it should be long enough to capture the behaviour or events (Corti, 1993).

The time spans of different diary studies have been diverse, depending on the topic investigated and ranged from a few days, e.g. Hinds and Kiesler’s (1995) two day diary survey of employees communication, to up to six weeks, e.g. the travel diary study of Axhausen et al (2002). In expenditure surveys, a reporting period of fourteen days is recommended as optimal, although some academics like Rao and Vidwans (1989, cited in Silberstein and Scott, 2004) suggested that a four-week period is very desirable. In his research, Kemsley (1979) found evidence of tiredness after longer periods of times. Over a two-week period, more entries have been made in the first few days than later in the week or in the following week. Similar results have been revealed by Silberstein and Scott (2004) in an analysis of the 1987’s U.S. Consumer Expenditure Survey. The authors found “sizable” declines in reporting after the first diary day and in the second
week\textsuperscript{24}. In contrast, in a study involving diary keeping for a period of 12 months to gather household expenditure data in Gambia and Tanzania, Wiseman et al (20005) did not find evidence of the fatigue effects on the thoroughness of diary entries. In conclusion, while tiredness may indeed arise, being aware of this issue can allow the researcher to take steps to avoid the pitfalls.

### 4.3.3.2 Diary Design

Diary design is another potential source of errors (Silberstein and Scott, 2004). Generally there is no guidance provided during the process of keeping of diary, because, unlike interviews where the interviewer can assist the respondent in understanding questions, the interaction between the diary-keeper and the researcher is limited. Consequently, adequate design is crucial. According to Silberstein and Scott (2004, p.306), a diary can be “cumbersome or impractical” making the record keeping difficult. The authors warned that the type of wording and examples could lead to errors since they can be interpreted as cues, helping respondents remember certain events and not others.

Evidence from literature suggests that a structured diary format provides the best results especially in the case of expenditure surveys. Studies like Sudman (1964), Sudman and Ferber (1971), Jacobs (1983) and Tucker (1984, 1988) indicated that explicit references to particular products increase the likelihood that these items will be included in the diary.

### 4.3.3.3 Respondent Conditioning

When data is collected through a diary instrument that is kept for a longer period of time (e.g. months), the effect of the diary-keeping on the behaviour and reporting patterns of the participants is an important problem. This is usually referred to as a conditioning effect and it is very difficult to measure. According to Silberstein and Scott (2004) one manifestation of conditioning is the potential change in respondents’ behaviour as a consequence of participating in the survey. For instance, in health diaries, participants may become “sensitized” to their health, hence they may be more aware of some symptoms or take more health actions than before (Verbrugge, 1980).

\textsuperscript{24} Mean estimates for the first day were 35 per cent higher than means for the combined two weeks. The estimates for the second week were 11 per cent lower than first-week estimates.
However, in a study evaluating the use of diaries for gathering data on medication in later life, Johnson and Bytheway (2001) revealed that none of the diarists gave any indication of a behavioural change in the light of diary-keeping. In diary expenditure surveys, the participants might become more aware of the amount of money spent, hence they might reduce their spending on some items (Kemsley, 1979).

Referring to the use of diaries in the field of psychology, Bolger et al (2003) note the insufficient knowledge of the effect of diary completion on participants’ experience or responses. The authors suspected that several effects like reactance, habituation, increased complexity, and gradual entrainment are possible particularly in more socially reactive behaviours. However, evidence from the literature indicated that although participants are more aware of the monitored behaviour, the behaviour itself is generally not reactive\footnote{Reactance refers to a change in participants’ experience or behaviour as a result of the diary keeping process (Bolger et al, 2003)} and suggest that diaries might actually lead to less reactivity than other forms of data collection because of a habituation\footnote{Gleason et al (2001) showed that the negative effect of diary keeping although present in the first days, has dissipated within two to three days. Hence diaries are believed to be less susceptible to reactance since the effect is evened out when recording occur for an extended period of time like a week or so.} process (Litt et al, 1998; Gleason et al, 2001 cited in Bolger et al, 2003).

**4.3.3.4 Response Rates**

One of the difficulties encountered during a diary study is to get the commitment of participants to complete the task since “diaries add another element to an already complex environment” (Toms and Duff, 2002, p.1238). In order to obtain reliable and valid data, diaries must achieve a level of participant commitment, ability and dedication that is only rarely required in other types of studies (Silberstein, 1991; Bolger et al, 2003). If a diary covers the behaviour of more than one subject, diary keeping often includes retrieval of information from other members of the party (Silberstein, 1991). One of the often mentioned problems of the diary method is a lower response rate than with other data collection methods. As Silberstein (1991, p.338) states, “respondent burden is the most frequently used explanation for declining reports with increasing time of diary keeping”.

Lack of co-operation is not only a problem of the diary method, but in general with surveys using a mailed-back questionnaire as the instrument to gather the data.
Considerable research has been conducted on methods to improve co-operation in surveys. One of the most prominent best practices, and also the one that is generally followed, is the Dillman’s Total Design Method (TDM). A response-maximizing approach, as articulated by Dillman (1978), includes up to five contacts with participants, stamped return envelopes, personalized correspondence and a token financial incentive (Hassol et al, 2003). While this approach proved to be successful in many studies employing mail-back questionnaires or telephone surveys, it appears to be less suitable for diary-based research since follow-up reminders pose the danger of transforming the diary to retrospective questionnaire. Respondents would fill in the data at a later time. Offering an incentive is often believed to be successful in increasing cooperation and this aspect will be discussed later in this section.

Response rates from diary studies have ranged from as low as just below 3 per cent, as it is the case of travel diaries, to as high as 80 per cent, often achieved in health diaries. In a study investigating the use of diaries as a tool for capturing data on communication and travel activities, Crosbie (2006) obtained a response rate as low as three per cent, when diaries were mailed out. The author believed that “having to read and digest a page of instructions deterred many potential research participants from completing the activity diary” (p.7). Since a response rate of 48 per cent was achieved when the diaries had been delivered personally and a verbal explanation on how to fill in the diary had been offered, Crosbie (2006) pointed out the necessity for researchers to deliver and collect the diaries and to make extra contacts in the process in order to achieve a satisfactory response rate. Corti (1993) also points out that best response rates are achieved when diary keepers are recruited on a face-to-face basis rather than by post. In addition, the author stressed the importance of the quality of interviewing staff who should be “highly motivated, competent and well-briefed” (p. n/a).

One aspect that is particularly important when it comes to response rates and needs careful attention is the non-response analysis. According to Wiseman et al (2005), in the case of randomly selected diary keepers, careful attention should be paid to check that the non-respondents are also random, or in different words that non-respondents are not systematically different from the whole population. In case of a statistically significant difference between participants and non-participants it would be difficult to generalize the findings from the diaries to the entire population. Kemsley (1979) found a
differential response rate, concluding that the participants on the diary survey could not be considered representative of the entire population. Households without children, or where the head was self-employed or retired, were less likely to complete the survey. In his study on activity diaries, Crosbie (2006) also revealed that the diary has led to an unrepresentative sample, most of the respondents being retired people. As previously discussed, the author suspected that the time consumption and difficulty of keeping the diary were the main reasons for the low response rate and the unrepresentative sample obtained.

The diary method might be susceptible to a non-response bias when the population is characterized by a high illiteracy rate. In this case, people having difficulties reading or writing are more likely to drop diary-keeping. Some remedies have been suggested in the literature like the use of pictorial diaries (Weisman et al, 2005) or the nomination of an alternative person in the party who can act as a scribe, such as a school-age child (Wiseman, 2005 citing Grosh and Glewwe, 2000).

There is a general agreement in the relevant literature related to the potential of using incentives to increase the response rate. In a study investigating the effectiveness of a draw to increase the response rate in travel diaries, McCool (1991) found that the response rate was significantly higher for a population that was offered the possibility to win $50. For diaries on consumer spending studies, Tucker (1993) also pointed out that incentives can increase response rates. The evidence from the literature about the effect of the value of compensation offered to participants is mixed. Sudman (1964) concluded that although compensation appears to be a necessity to keep households cooperating in the National Consumer Panel, the percentage of households who will complete the survey and the accuracy of their recordings appeared to be independent from the level of compensation. In another test applied to a different sample, the same author reported a high sensitivity of respondents to the value of the compensation offered. In an incentive experiment study preceding the 1972 Consumer Expenditure Survey conducted by the U.S. Bureau of the Census, Walsh (1977) found no dramatic
improvement in co-operation levels by offering a modest monetary incentive\textsuperscript{27} for participating in the survey.

Many survey researchers have traditionally regarded response rates as an indicator of the quality of a survey; a high rate of return indicates a successful survey whilst a low response rate is more indicative of a less successful study. However, Armoogun et al (1999, p.2) stress that while response rates are important, “it can be a mistake to concentrate entirely on response rates, especially if this is to the exclusion of serious consideration of the nature of the behavioural mechanisms underlying non-response”. As Rylander et al (1995) noted, a high response rate on its own is not an accurate indicator of the success of a survey since non-respondents may differ from respondents on key variables, so even when a 79 per cent response rate is achieved, nonresponse bias might be present.

To conclude, although some authors (Toms and Duff, 2002; Silberstein, 1991, Bolger et al, 2003) suggest that diaries may be subject to non-response bias, evidence from the literature showed that this can be accounted for by applying some measures such as: 1) offering incentives (McCool, 1991; Tucker, 1993); 2) recruiting the participants on a face-to-face basis rather than by post and offering a verbal explanation on how to fill in the questionnaire (Crosbie, 2006); 3) making extra contacts with the participants during the process (Crosbie, 2006). Moreover, the issues of non-response bias are equally if not more apparent in other methods and as such any problem that would arise with diaries is most likely in existence in other methods.

4.3.3.5 Other Potential Issues

From a respondent's point of view, one of the perceived advantages of diaries is that they can be maintained and updated by participants at their own convenience (Wiseman et al, 2005). However, Marino et al (1999 cited in Wiseman et al, 2005) cautioned that without clear guidance on the desired regularity of entries, there is a danger that the diary might easily become a recall-questionnaire, if participants are attempting to recall activities or events over a longer period of time. Shiffman and Stone (1998, p.125)

\textsuperscript{27}The effect of incentives like 5 and 10 US dollars has been investigated. The improvement in the level of cooperation was by 4.5 per cent for $10 compared with no incentive at all, which was considerably lower than the expected increase of 10 per cent.
pointed out that one of the issues arising when using self-report methods is “the ability of subjects to complete diary entries after the fact and thus fake compliance”.

Some participants might find it difficult to complete diary entries regularly or fail to have the diary at hand to record the event immediately after its occurrence. This aspect is referred as “honest forgetfulness” (Bolger et al, 2003, p.9). In addition, the issue of retrospection error is not completely eliminated by using diaries since a danger of late recording exists: Participants can ignore the time element and fill in the data retrospectively, by reconstructing or fabricating the missed value, defeating in this way the main benefit of diaries (Bolger et al, 2003). The use of palm-top computers (electronic diaries) can overcome these limitations as they can be pre-programmed to emit reminder signals and they can provide time- and date-stamps for responses (Shiffman and Stone, 1998; Wiseman et al, 2005). Additionally, making extra contacts with the participants to remind them to fill in the diary can also overcome this potential issue.

### 4.3.4 Previous Diary Use

The diary method has successfully been applied in a wide variety of disciplines. Initially diaries were a source of data for biographers and literary scholars. More recently the method has been adopted by sociologists, psychologists, health care researchers, nutritionists, dieticians and market researchers as a reliable means to collect detailed information about behaviour and events of individuals’ daily lives.

Social scientists use diaries in time allocation studies and a significant amount of research has been conducted in this field. Information about how people use time can be a good indicator of the quality of life, social and economic well-being, and patterns of leisure, work, travel and communication (Crosbie, 2006). Self-administered diaries are one of the main instruments applied to gather data on time use (Johnson, 1990 and Nydon and Thomas, 1989 cited in Crosbie, 2006) and according to some academics like Harvey (1999, p.19) they “provide an ideal approach to the collection of activity data”. According to Lee (1993) time budgets are detailed diaries in which participants keep a record of daily activities.

Diaries have been adopted in a variety of studies to record data on activities related to a plethora of topics like travel (Harvey, 2003), leisure (Gershuny, 2002), marital and
family processes (Wills et al, 1974; Laurenceau and Bolger, 2005), communications (Crosbie, 2006; Axhausen, 1995), labour (Bonke, 2005). Juster and Stafford (1991) pointed out that a considerable amount of attention has been paid to measurement issues involving time use, many studies devoting a great amount of effort to methodological issues. These studies have reached the conclusion “that some form of diary instrument that records the chronology of various time uses over the day is the only valid measurement of time use, and less expensive substitutes are of substantially lower quality and have systematic biases of a major sort” (Juster and Stafford, 1991, p.482).

Two other major areas where diaries are extensively used are household expenditure and transport research. Interviews conducted at households and the recording of spending in diaries are the two most frequent methods applied to collect information on household expenditure. The main distinction between the two methods is that the household interview method relies completely on the respondent's ability to recall expenditure, while the diary method encourages recording as close as possible to the time the expenditure occurred (Neter, 1970). According to Lyberg and Kasprzyk (1991), the literature widely recognizes the use of a diary method to gather data on many types of household expenditure data. Stinson et al (2003, p.3) stressed that the diary method of data collection is an especially useful tool for gathering daily records of frequent, “low-salience purchases” before they are forgotten. In addition, this method makes it possible to collect follow-up details on purchases that can be used to produce the weights for the Consumer Price Index. The authors also outlined the importance of creating a user-friendly diary and reported numerous attempts to create a successful questionnaire which would potentially produce high response rates and accurate estimates.

Diaries are also used with success in transportation research. Although some isolated studies comparing the diary method with other traditional record methods revealed mixed results in relation to the superiority of one or the other approach (Stopher and Sheskin, 1982), the results of the vast majority of studies recommend the diary method as the best alternative. In a review of previous studies that applied travel diaries, Stopher and Sheskin (1982) provided some recommendations to overcome some potential diary drawbacks such as: 1) the provision of incentives, 2) contacts between the surveyor and participants either in the form of appointments to collect the diaries at
the end of the survey or by repeated visits for long-term diaries appear to be essential; 3) the simplicity of the questionnaire along with providing appropriate instructions are of high importance. Being aware of the potential issues that might appear during the application of the diary method and taking the steps recommended to prevent them would lead to the collection of more accurate and detailed data.

The diary method enjoys a high popularity within the discipline of medical sociology as it allows participants to record their symptoms and the actions they take to manage the condition (Bloor and Wood, 2006). Since records can be made on a hourly, daily or weekly basis, the diaries allow the analysis of the temporal change in the medical condition. Health diaries have a long history, being used as a self-reporting data collection tool at least since 1930s (Keleher and Verrinder, 2003). Extensive literature reviews of the use of health diaries were conducted by Verbrugge (1980), Burman (1995), Lawrence and Schank (1995) and Finnel and Ditz (2007). Some studies using retrospective interviews used diaries as memory aid to improve the recall of events, other studies used diaries for comparative purposes, contrasting the reporting levels for retrospective and prospective procedures, and in other studies they were used as the main data collection method (Verbrugge, 1980).

The superiority of the diary method as a means to collect health data has been pointed out on many occasions. Referring to some review studies in the field, Keleher and Verrinder (2003, p.437) concluded that it appears that researchers choose diaries over other methods because they proved to be “a trustworthy means of collecting data with very low levels of recall error”. In addition to providing data of a better quality, diaries are able to supply additional information that would be either impossible or very difficult and costly to get in any other way. As Norman and his colleagues (1982, p.629) stressed, “the health diaries represent a sensitive measure of a dimension of illness that could not be assessed by other means”.

The literature review showed that diaries have been adopted in a plethora of disciplines on an experimental basis for many years. While there were some conflicting results on the efficacy of diaries in these studies, the overwhelming evidence suggests that:

- Diaries give more accurate results than recall-based techniques;
• While there is some evidence of non-response bias in some studies, on balance this seems at worst to be far less worrying than with traditional studies and moreover once recognized can be corrected for by proving incentives, creating a user-friendly diary-questionnaire and establishing contacts between the surveyor and participants.

The results of these studies provide enough evidence that the adoption of the diary approach is an effective way of collecting data and can be used as a more reliable alternative to more conventional methods.

4.3.5 The Use of Diary Method to Gather Data in Tourism Field

Despite its potential benefits, the diary method has been applied only rarely to gather tourism data. The failure to use diaries was based on the belief that costs would be prohibitive and that the response rates would be low. In traditional surveys, tourists are often approached on the last day of their stay, totally unprepared, and then asked to recall details on different aspects of the experience, e.g. activities, places visited, perceptions, expenditure, and all that within only a few minutes. In contrast, diaries are distributed to tourists on arrival and respondents are asked to keep track of different events or activities in advance. This not only enables the researchers to ask more detailed questions, but also allows the participants to enter data while it is still fresh in their memory. The data provided by diaries is expected to be more accurate than those provided by recall method, as it avoids memory decay by bringing the time of recording of an event closer to the actual event.

4.3.5.1 The Use of Diaries in the General Field of Tourism

Previously, the diary method was applied in tourism to investigate the links between duration of travel and certain tourist behaviours (Poria, 2006). For example, Thornton et al. (1997) used a space-time budget diary to gather data on the activities of 143 tourist parties during a visit to Cornwall, England. The purpose was to investigate children’s influence on travel behaviour. Apart from providing evidence on differences in travel behaviour for parties travelling with or without children, the authors discussed some of the issues related to a diary approach. The researchers had addressed the general problem of a relatively low response rate by offering a gift voucher as a reward. As a consequence, a response rate of 51 per cent was achieved. The authors also noted the
variability in the data quality and the preponderance of female tourists among the diary keepers. Referring to the potential bias related to the socio-economic background of respondents, the authors stressed that there is no evidence that the complexity of diaries might deny participation to parties from lower socio-economic classes.

Although used only as an additional data source and not the main data provider, a diary approach was also used in the studies of Markwell (1997) and Hyde and Lawson (2003). Markwell (1997) used diaries as one of the data sources in a study exploring the spatial, temporal and social dimensions of photography in a nature-based tour experience. Combined with other data gathered by means of on-site observations, post-tour interviews and photographic collections taken by the participants, diaries contributed “to illuminate aspects of tourism photography” (p.152). Although without a substantial contribution to the collection of the main data in the study of Hyde and Lawson (2003), diaries were used by participants to help recall details of their vacation experiences.

4.3.5.2 The Use of Diaries in Tourist Expenditure Surveys

Although there is a general agreement among tourism researchers regarding the susceptibility of visitor surveys to recall error, there has been little attention paid to investigating the accuracy of the subsequent estimates and to test more reliable alternatives to collect expenditure data. Some attempts were made by Mak et al (1977) who compared a mailed survey with a diary method, Stynes and Mahoney (1989) who compared actual on-site trip expenditures with post-trip recall estimates, Frechtling (1987) who examined the effect of the time elapsed between the trip and interview on expenditure recall accuracy, Howard et al (1991) who attempted to examine the accuracy of tourists’ expenditure using a form of a paired-comparison design, Faulkner and Raybould (1995) who evaluated the use of a diary questionnaire in monitoring visitor expenditure at a sporting event, and Yuan (2001) who investigated the use of diaries to gather tourist expenditure. A brief description of the studies employing a diary approach along with their main finding is provided below.

In a paper suggestively titled “How or How Not to Measure Visitor Expenditures”, Mak et al (1977) compare two different approaches of measuring visitor expenditure: a diary in which visitors recorded their expenses on a daily basis, and a mail questionnaire sent
after visitors returned home. The authors pointed out the ability to reduce recall error as the main advantage of the diary. The authors identified the low return rate and the danger of the “conditioning effect” since the spending behaviour of tourists might be influenced by the diary keeping as the main concerns about the use of diaries. The results of the comparison indicated that the two approaches yielded substantially different results with mail-back questionnaires generating lower estimates. Unfortunately, no details relating to the potential non-response bias or conditioning effect in the diary survey were discussed. In a study comparing on-site expenditure with post-trip recall estimates of participants to a national conference, Stynes and Mahoney (1989) also found that post trip estimates were significantly lower (20 per cent) than figures collected during the event. Similar to previous research, recall errors in post-trip surveys are believed to be responsible for the under-estimation.

Using a sample of visitors attending the 1993 Australian University Games in Brisbane, Faulkner and Raybould (1995) compared the expenditure data collected via a diary approach with data collected by means of recall-based methods to determine the most appropriate method for measuring expenditure associated with special events. The authors stressed that there is a major concern that potential recall errors can seriously compromise the reliability of the data. Significant differences in the data collected by the two methods were noted in three spending categories, namely entertainment, food and beverages and shopping. The lower estimates on entertainment and shopping expenditure revealed by the recall questionnaire was attributed to memory decay, while the higher figures on food and beverages disclosed by the same method were speculated to be due to the so called “social bravado” effect, i.e. an overestimation of expenditure as a result of pressure from present peers at the exit interview. The authors concluded that despite some difficulties associated with the diary method such as non-response bias, diaries are still the most accurate method of tracking visitor expenditure at events.

A replication of Faulkner and Raybould’s study (1995) has been conducted by Breen and her colleagues (2001) who investigated the relationship between special events’ expenditure and “social bravado” effects. Four survey methods have been compared: 1) individual recall interview, 2) individual recall interview within a group, 3) a diary collected on the final day of the event, and 4) a mail-back diary. Generally, the results were in line with the findings of Faulkner and Raybould (1995). No strong evidence of
a non-response bias of diaries caused by low response rates was found. Recall interview techniques appeared to lead to lower expenditure estimates in certain key spending categories due to memory decay. Evidence suggests that only male tourists are likely to be affected by the “social-bravado effect” and only in relation to food and drinks expenditure. The authors voiced the need for further research to identify which data collection method actually leads to the most accurate expenditure data associated with special events.

Howard et al (1991) attempted to determine the accuracy of the expenditure estimates provided by tourists, starting from two propositions that emerged from a literature review: 1) The tendency of respondents to underestimate trip expenditure; and 2) The expectation that tourists might be able to provide more accurate data on broader spending categories. The authors used a form of paired-comparison design in their research: They assigned the role of the recorder to a randomly chosen member of the travel party, while a second member was assigned the role of the estimator. The estimator was asked to estimate the expenditures on the last day of the trip. The results obtained by comparing the two figures revealed that estimators significantly underestimated overall daily expenditures. The expenditure reported by estimators was 8 per cent lower than the spending registered by the recorders. In addition, discrepancies have been noticed in all five expenditure categories with shopping registering the higher difference and entertainment/recreation the lowest. Evidence from the study also revealed that recall accuracy decays rapidly, the response error increasing as a function of length of stay.

Yuan (2001) investigated the differences between two survey designs, i.e. a traditional diary method asking the tourists to record their expenditure for the first two days of the trip and a new design asking for the expenditure record for only one pre-selected day of the trip. Considering the two days expenditure record as a burden for tourists leading to low response rate, Yuan found that the number of group expenditures and the average daily expenditure do not differ significantly between the two designs under consideration, but the new approach produces higher initial response rates, lower rejection rates and higher overall net response rates.
Attempts to apply a diary approach were made in other tourism expenditure studies, but unfortunately details on the methodological aspects are scarce. Wilton and Nickerson (2006) employed a diary questionnaire in a study investigating the spending habits of tourists to Montana. They collected data on tourist expenditure for a single random day of the trip and achieved a response rate of 39 per cent. The article doesn't provide any information about a non-response analysis. The authors concluded that spending data collected from tourists with an onsite diary can produce detailed accounts of individual spending patterns and minimizes the recall error.

The studies described above show promising evidence that problems that are usually associated with the diary method, i.e. non-response bias, conditioning and fatigue, are not significant. Breen et al (2001) found no evidence of bias introduced by low return rates, confirming the results of Faulkner and Raybould (1995) who also revealed no risk of non-response bias. Breen et al (2001, p.474) states that “depending on the nature of the respondent population, non-response bias from diary returns seems to pose fewer problems than significant visitor underestimations found through memory decay and recall bias at interviews”. Rylander et al (1995) devoted an entire study to investigating the non-response bias in tourist spending surveys. The overall effect of non-response bias in his study was relatively minor, thus confirming previous results. The author concluded with recommending “the use of diaries to record expenditure as they are incurred” (p.44).

4.3.6 The Diary Method Versus Conventional Methods

Previous studies comparing data collected by means of diaries with data collected in recall-based surveys have been rarely undertaken in the area of tourism. In a study comparing travel expenditure derived from post-trip survey questionnaires and trip diaries, Mak et al (1977) found that respondents participating in the recall survey considerably underestimated their spending. Similar results have been revealed by Stynes and Mahoney (1989) who found that post-trip estimates of respondents attending a national conference were 20 per cent lower than the expenditure provided by respondents during the conference.

However, although only scant, there is some literature available in closely related fields such as recreational expenditure. Champ and Bishop (1996) conducted four experiments
to test the accuracy of recreational expenditures reported in recall surveys compared to expenditure reported in diaries. The four experiments, one involving turkey hunters and the other three involving deer hunters, used both diaries and recall-based surveys for the collection of expenditure data associated with the recreational activity. The results of the study suggest that although the aggregate expenditure reported in the two methods might differ, the difference was not found statistically significant for most of the spending categories. However, in a study investigating the effects of the length of the recall period on recreational expenditure, Chu et al (1989) concluded that the longer the recall time the bigger the difference between reported and actual expenditure become.

In a study comparing the results of consumption data collected by a two-day diary and a 24 hour-recall personal interview on 39 different food groups, Stanton and Tucci (1982, cited in Champ and Bishop, 1996) found no significant difference in the amount of food ingested collected by the two surveys.

In a study using the data from the US Consumer expenditure Survey in 1987, Silberstein and Scott (2004) compared household expenditure data collected in a diary with data collected in a retrospective interview. Data on three categories, namely home furnishing, apparel and entertainment had been collected. The comparison revealed significant differences in the annual mean expenditure, but the direction of the difference was mixed: the diary method revealed higher means on home furnishing and apparel spending and lower entertainment expenditure. The authors concluded that the diary performs better in collecting expenditure data for routine items capturing smaller expenses to a greater degree.

A comparative study in the area of expenditure household surveys was conducted by Battistin et al (2003). The authors compared food and nondurable expenditure data collected via a recall and a diary method and concluded that 1) the recall method provided estimates comparable to the diary method if heaping and rounding errors are taken into account and 2) nondurable expenditure was seriously affected by recall error.

Comparative studies have also been conducted in the area of health services. Willcox (1973) compared morbidity data collected via a diary instrument in which participants

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28 “Heaping is often found in discrete quantitative data based on subject responses to open-ended interview questions or observer assessments. Heaping occurs when subjects or observers prefer some set of numbers as responses (e.g. multiple of 5).” (Roberts and Brewer, 2001).
recorded the illnesses as they occurred over a period of time, with data collected in a retrospective interview. Based on medical records, the author concluded that the diary is a more reliable source of data. Van den Brink et al (2001) also compared data collected via a diary method with data collected through a retrospective questionnaire in a study investigating the ability of children and adolescents to recall prior headache complaints. Similar to the previous research discussed above, the authors concluded that recall errors occur on retrospective questionnaires and recommended the diary method as a better alternative.

The suitability of retrospective questionnaires as a means to collect data on health-related events was further questioned by Shiffman et al (1997) in a study comparing real-time and retrospective recall of smoking lapses. The findings suggested using caution when using recall data in clinical research.

In contrast with these findings which clearly indicate the superiority of the diary method for the collection of health data, research results from studies investigating alcohol consumption were mixed. While studies like Lemmens et al (1988) and Poikolainen and Karkkainen (1983) (cited in Hilton, 1989) demonstrated that diaries yield the more accurate data, other studies like Midanik et al (1989) and Simpura (1983) have shown better results with recall-based methods.

Kitterod (2003) compared measurements of time spent on housework, once using a retrospective questionnaire and once a diary in Norway. In contrast to other similar studies, the results indicated no consistent pattern of higher time estimates in questionnaires than in diaries. However, the author noted significant differences in the estimates by different age cohorts: for young people questionnaires showed higher estimates for housework time than diaries, whereas the opposite holds for older participants. Some differences were observed for parents with children: the questionnaires produced higher estimates. Random error, recall problems, double counting of activities, social desirability and social norms have been suspected to be the main causes of higher estimates produced by retrospective questionnaires.

In a study comparing the diary and traditional interview techniques for recording organizational communication patterns, Conrath et al (1983, p. 315) also argued that diaries are inherently more reliable. In the field of time-use surveys, a study comparing
information on paid and unpaid work collected via a diary method with data collected via a retrospective questionnaire further confirmed the superiority of diaries (Bonke, 2005).

4.3.7 Summary

The aim of this chapter was to provide a review of the relevant literature to explain the need for the current research. Although serving different purposes, comprehensive tourism statistics are essential for both government and private industry, as well as for other organizations responsible for policy formation and promotional activities in the general field of tourism. They provide a basis for making efficient marketing and development decisions. As Edwards (1991) pointed out, statistics related to trends in tourist arrivals, expenditure, accommodation occupancy or market shares are used for everything from planning promotional campaigns to computing the economic impact of tourism to the national economy. Unfortunately, statistics in tourism suffer from many credibility issues, the poor quality being one of the main reasons for the little acclaim received by the tourism sector. The review of the literature revealed methodological issues associated with the measurement of tourism, the need for more credible data related to the scale and significance of this sector often being stressed.

Since the quality of tourism statistics rely completely on the quality of data that form its basis, a description of the main methods used to gather tourism data has been further provided. Data from Central Bank, tourism establishment surveys and visitor surveys are common means for collecting tourist expenditure data. Evidence from literature indicates that accuracy, reliability and adequacy problems are associated with each of the methods, leading to under- or overestimates of tourist spending (Volo and Giambalvo, 2006). The doubts concerning the current methods centrally revolve around the issue of recall error. Memory decay associated with long-term memory weakens the validity of responses, increasing the likelihood of error.

Following the review of other traditional methods, the diary method was introduced as a more reliable alternative. The main benefits of the diary approach are 1) the immediacy of the reporting of events, minimizing in this away the recall bias, 2) the prospect for the investigation of temporal dynamics, identifying patterns and changes in respondents’ behaviour over time, 3) the ability to capture events that are difficult to
recall accurately or that are easily forgotten; 4) the ability to collect sensitive information; 5) the possibility to examine the events and experiences in their natural and spontaneous context which leads to the identification of contextual/situational factors within which behaviour occurs; 6) the degree of detail which can be recorded contributing to a better understanding of the phenomenon under investigation.

Unfortunately, these strengths are sometimes tempered by considerable limitations. The main concerns surrounding diary approach e.g. the conditioning effect, a low response rate, decreasing detail as a consequence of fatigue, were presented. To use the diary method effectively, these issues need to be acknowledged and addressed, but they should not prevent researchers from applying the method. Evidence from literature suggests that while there are these concerns associated with the diary approach, the potential of bias thus introduced is less of a problem than memory decay and other response biases associated with traditional methods.

The following chapter will provide a detailed account of the way the diary method has been applied in the current research, underlying the advantages and addressing imminent issues.
CHAPTER 5: RESEARCH METHOD AND DATA ANALYSIS

This chapter should give the reader detailed and sufficient information in order to assess the reliability and validity of the research method used. The main purpose is to outline and justify the methodological choices that were taken during the primary research phase of the current research. First, a brief introduction to the positivist approach used in this study to answer its central questions will be provided. This approach enabled the exploration of the benefits of the additional information provided by the diary method as well as the investigation of the spending behaviour of tourists at the destination.

The chapter will discuss the conceptual framework and the practical elements of this research. First the research is placed within the ontological position; second the method employed for data collection is discussed with a focus on the reasons for choosing it over other methods. Subsequently, the process of data collection will be described and finally the approaches taken to analyse the data are discussed. The chapter will conclude with a summary of the main steps involved in the process of gathering and analysis of the data.

5.1 Research Philosophy

The current research aims at achieving two major purposes. The first objective, at the design level, was to investigate how the successful adoption of diaries can tackle the deficiencies of traditional methodologies for the collection of expenditure data in tourism. In addition, it was aimed to explore whether diaries can provide supplementary information on tourism behaviour e.g. spending behaviour over the days of the holiday or spatial trajectory of expenditure. The second objective of the study, at the practical level, was to investigate the spending behaviour of British tourists to the Shannon Region which would help the destination marketeers to better target cohorts that have the highest impact on their turnover and profitability. The case study of Shannon was dictated by practical considerations though the main findings may have wider implications for the collection and analysis of data in other tourism areas.
Positivist ontology is the underlying paradigm of this work. It assumes that “things can be studied as hard facts and the relationship between these facts can be established as scientific laws” (Smith, 1998, p.353). In a review of the work of Easterby-Smith et al (1997) and Hughes (1994), Crossan (2003) points out the main implications of positivism for social research based on this approach:

- Methodological: only quantitative research can be the basis for valid generalization and laws;
- Value-freedom: the choice of what to study and how to study it, should be determined by objective criteria rather than by human beliefs and interests;
- Causality: the purpose should be to identify causal explanations and fundamental laws that explain human behaviour;
- Operationalisation: concepts need to be operationalized in a way that enables facts to be measured quantitatively;
- Independence: the researcher is independent of the subject examined and the researcher is an unbiased observer, and
- Reductionism: problems are better understood if they are reduced to the simplest possible elements.

The ontological stance of positivism assumes that reality is objective and observable (Wildemuth, 1993), truth exists and can be identified or discovered (Riley and Love, 2000, citing Guba, 1990 and Denzin and Lincoln, 1994). Epistemologically, the positivist keeps a distance and no interaction with the object being researched and from a methodological viewpoint the positivist tests his theory for empirical approvals (Guba, 1990).

Positivism is closely tied to quantitative methods. Research adopting quantitative approaches is said to be mostly numerical and is designed to ensure objectivity, generalizability and reliability (Zawawi, 2007). According to Eldabi et al (2002), quantitative research typically has a logical and linear structure and relies on the measurement and statistical analysis of data to determine relationships between variables. The research questions in the current study required an examination of differences between subjects and the identification of dependencies between variables.
The quantitative approach was considered adequate to answer such research questions given its design and statistical focus (Veal, 2005). The sampling design, choice of the statistical instrument, the data collection process and the analytical techniques employed, all followed the requirements of the quantitative approach.

5.2 Operational Definitions

Before embarking on the detailed description of the research method employed in the current research and the data analysis process, the introduction of the main operational definitions is necessary. This section defines the main terms employed in the current research. The definitions and terms adopted in the current study comply with the recommendations of World Tourism Organization (WTO) referred in the “Technical Manuals”.

According to WTO (1995, p.10), an international tourist is “any person who travels to a country other than that in which s/he has his/her usual residence but outside his/her usual environment for a period not exceeding 12 months and whose main purpose of visit is other than the exercise of an activity remunerated from within the country visited, and who stays at least one night in a collective or private accommodation in the country visited”.

As regards the main purpose of visit, this is considered the purpose in the absence of which the trip would not have taken place and can be classified in six major categories: 1) leisure, recreation and holiday, 2) visiting friends and relatives (VFR), 3) business, 4) health treatment, 5) religion/pilgrimages and 6) other purposes.

Tourism expenditure is defined as “the total consumption expenditure made by a visitor or on behalf of a visitor for and during his/her trip and stay at the destination” (WTO, 1995, p.3). The various components making up tourism expenditure can be divided in three main categories: pre-trip, on-trip and post-trip expenditure. However, the definition of international inbound expenditure (which is of interest for the current research) excludes pre-trip and post-trip expenses, including only those expenditures,

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which represent a transfer of expenditure from one economy to the other. Data on tourist expenditure has been collected and presented under the headings recommended by the WTO: lodging, shopping, food and drinks, transport and sightseeing & entertainment.

For international inbound tourism, the length of stay is measured as time spent in the receiving country. For the purpose of the current study the duration of stay is represented by the number of nights the tourists stayed at the destination.

5.3 Survey Design

Gill and Johnson (2002, p.168) state that “if we accept the philosophical assumption of positivism and its consequent epistemological prescriptions, we are invariably drawn towards the exclusive utilization of nomothetic methodology”. The nomothetic-deductive method is the one chosen by the researchers who want to learn something about social regularities - things that apply to people in general. Since the focus is on the discovery of laws or principles that govern aspects of reality, nomothetic research cannot depend on data that describes a single individual but it needs information that describes enough cases in order to observe a general pattern (Richards, 1998).

Prominence is given upon replicability, which leads to a highly structured research methodology based on either physical or statistical controls. Hence, the main research methods that are used by the positivists are laboratories, surveys and quasi-experiments (Christou et al, 2009). Surveys, usually associated with the deductive approach, are also a popular and common strategy in business research. They allow the collection of a large amount of data from a sizeable population. Data that is collected mostly through questionnaires is then standardized and allows for easy comparison (Saunders et al., 2000). A cross-sectional survey based on a diary questionnaire was the method of choice for the current research and the next section underlines the rationale for this choice.

30 Carrier receipts are excluded
5.3.1 Rationale for Employing a Diary-Based Survey

The initiation of a research project requires many decisions. Following the positivist approach, the selection of the data collection method is of major importance. This decision is guided by the purpose of the study and the nature of the research question, which generally prescribe the selection of a strategy for data collection from a set of possible alternatives (Ross et al, 1994). Traditionally, information from tourists about their spending behaviour is collected through a number of sampling instruments such as frontier controls, household surveys, reports from the banking institutions, reports from accommodation establishments and occupancy surveys, statistics on visitors to attractions, in-flight and on-board surveys and consumer research. The diary approach has been adopted only occasionally.

As detailed in Chapter 4, the main concerns about the traditional methods for data collection mainly revolve around the issue of recall error (Faulkner, 1993). There are at least three types of errors, namely the omission errors, the telescoping effect and finally the inability to recall particular items of expenditure (Horburry, 1990). Faulkner and Raybould (1995) outline that the potential for recall error is a major concern that seriously affects the reliability of the collected data. The ability of tourists to accurately recall their expenditure from a past visit is weak. Memory decay associated with long-term memory weakens the validity of responses, increasing the likelihood of error. Therefore, the reliance of the recall method on the memory of respondents means that it is very likely that expenditure may be mis-reported and, as a consequence, the validity of data gathered by this method is questionable.

General agreement on the poor quality of tourism statistics and the immunity of a diary-based survey to adverse recall errors was the rationale for selecting the diary method as the survey method for the current research. A diary survey helps to minimise the time-span from when the expenditure happens until the recording of the expenditure. Successful adoption of diaries can tackle the deficiencies of traditional methodologies and in addition provide vital additional information in some areas where the traditional approaches fail to provide accurate data, such as: the variation of consumption patterns over a holiday or geographic consumption trajectories of visitors.
One of the major objectives of this research was to investigate whether the adoption of diaries can overcome the deficiencies of traditional methodologies for the collection of expenditure data in tourism. Hence, importance was given to every minute detail in planning the data collection process. The following sections aim to provide a description of this process.

### 5.3.2 Survey Design

Diaries usually provide information about the amount, type, and location of all expenditures made for a defined number of days (Yuan, 2001). A number of decisions have to be made when designing a diary questionnaire. Diary formats can be unstructured, where participants register events as they occur, or more frequently diaries are structured in the form of a log or a calendar (Marino et al, 1999 cited in Wiseman et al, 2005). Research conducted by Sudman and Ferber (1971) focused on investigating the best design for an expenditure diary. The results revealed that out of the three kinds of diaries tested (a journal diary\(^{31}\), an outlet diary\(^{32}\) and a product diary\(^{33}\)), the product diary performed best. The participants found the diaries structured by product group easier to use, hence they were more likely to keep the diaries for a longer period of time to track expenditure.

These arguments taken from Sudman and Ferber (1971) lead to the conclusion that the best choice for an expenditure collection instrument for this research was to use a product-oriented diary. The questionnaire is an improved version of a diary developed for a previous survey carried out by the National Centre for Tourism Policy Studies of the University of Limerick in 1998. Tourists were asked to record all the expenses encountered during their stay for a maximum period of two consecutive weeks.

The diary-questionnaire (see Appendix A) is divided in two main parts. Part 1 consists of twelve questions, aimed to provide information about socio-demographic characteristics of the tourists, main purpose of visit, party composition, type of trip (self or not self funded) and details about arrival and departure dates. The second part includes the diary itself (one diary is provided for each day of stay), followed by some open questions about the tourist experience in Ireland as well as checking questions.

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\(^{31}\) In a journal diary the entries are made in the order the purchases are made;

\(^{32}\) The entries in an outlet diary are made by type of store or service;

\(^{33}\) In a product diary the entries are made by type of product (Sudman and Ferber, 1971).
The diary for the actual expenditure collection is divided by day and by a broad classification of goods and services under the categories of accommodation, shopping, food and drinks, transport and sightseeing, and entertainment. Within each category are several subcategories identifying the expenditures that should be recorded.

Evidence from the literature indicates the importance of attaching a cover letter to encourage respondents to complete and return the questionnaire (Lukas et al, 2004; Churchill, 1995). Hence, an introductory page (see Appendix A) explaining the main purpose of the survey, funding details, the incentives for respondents as well as the possible impact of the results on improving the tourist experience in Ireland was enclosed with the questionnaire in order to stimulate co-operation. A detailed description of the main steps involved in successful completion of the diary was also attached. An analysis of the responses to a similar survey carried out in 1998 revealed that some respondents encountered difficulties in the completion of the diary. Resultantly, it was decided to include an example page with a diary completed for one day to provide guidance.

5.3.3 Pilot Test

There is wide agreement among social researchers that pilot testing is an integral part of the questionnaire development process, its benefits being stressed on numerous occasions by academics like Reynolds and Diamantopoulos (1998), Hunt et al (1982) and Churchill (1995). The main purpose is to investigate if the designed instrument is able to provide “data of sufficient quality and quantity to satisfy the objectives of the research” (Hunt et al, 1982, p.270).

A pilot survey was undertaken to test the questionnaire and to explore the issues involved in using the diary approach as a tourist expenditure data collection method. There are some concerns about diary surveys that were taken into account. It is sometimes claimed that keeping diaries will influence the tourists’ spending behaviour. Additionally, the contact between the interviewer and the recipient of the diary is extremely limited, and so it is difficult to detect and resolve misunderstandings and to evaluate the response performance. According to Silberstein (1991), response performance has two parts, the frequency of updates of the data and its accuracy.
In order to get an understanding of these issues, a pilot survey was carried out in the summer of 2005 at Shannon Airport, combining the diary keeping with an interview at the end of the trip. The respondents were interviewed about how well they understood the questionnaires (when they filled them out) and whether they used precise or approximate amounts. Finally, respondents were asked, whether the keeping of the diary influenced their spending-behaviour. The results of these interviews are reported in subsection 5.3.3.

5.3.3.1 Sampling Frame, Sample Size, Sampling Procedures and Fieldwork

While there is general agreement related to the importance and benefits of pre-testing, there is no conformity with regard to the best method that should be employed. A review of the related literature revealed three common practices: 1) planned field survey, employing a small sample; 2) personal interview, where the interviewer aims to identify any difficulties or incomprehensible questions which might prevent respondents from providing accurate answers, and 3) an expert panel, where a group of experts are asked to evaluate the instrument (Shammout, 2007). Although each approach has its own benefits, Reynolds and Diamantopoulos (1998) consider personal interview as the most effective means of conducting a pre-test given its accuracy and the completeness of information produced (Shammout, 2007). For the current research, it was decided to combine the field survey with an interview in order to maximise the benefits. Shannon Airport was a convenient location for the field survey. Shannon Airport Authority issued security passes for a period of two weeks.

When an interview or planned field survey is adopted, decisions on two dimensions are particularly important: the subjects that should be included and the sample size. As regards the first aspect, the general opinion is that subjects should be similar to those approached in the main survey (Churchill, 1995; Tull and Hawkins, 1990 cited in Shammout, 2007). In contrast, there is no clear guideline related to the appropriate sample size. While some authors suggest that a sample size of 20 cases is adequate, others consider a minimum of 50 cases as the most appropriate (Luckas et al, 2004) since it allows for proper statistical procedures. Since the security passes for Shannon
Airport were issued for a period of only two weeks, the final sample size was dependent on the number of diaries distributed during the two weeks.\textsuperscript{34}

The purpose of the pilot-study was to administer the questionnaire to respondents in approximately the same way as it will be administered in the main study. Eighty-nine questionnaires were distributed to tourists from different age cohorts to ensure that the diary was comprehensible to all parties involved. As one of the main goals of the pilot-study was to test the survey instrument, tourists were asked to give feedback during a short interview on the date of departure. Those tourists who were not available for an interview for different reasons (such as flying back from another airport or an early departure) were asked to record any difficulties occurred while completing the diary on the last page of the questionnaire. One questionnaire and a pre-paid envelope were handed to each tourist or travel party who agreed to participate in the survey.

\textit{Place of questionnaires distribution and interview}: the baggage reclaim area was chosen as the place of questionnaire distribution. It was initially thought that the day before departure might be the best time for the exit-interview but this has been proven not to be effective because few tourists knew where they would be on the day before departure. Finally the exit-interviews were held on the day of departure in the check-in area.

\textit{Distribution}: Shannon Airport Authority provided a list of all incoming and outgoing flights. There were a total of 16 flights from the UK spread over each day of the pilot-study. It was intended to approach tourists from all the flights but due to a very late arrival time one flight had to be omitted. The number of British tourists approached per flight varied from 5 (which is the highest number) to 0, which is the case where all the persons approached had another residency other than the UK. Table 5.1 summarises the total number of tourists approached, grouped by residency.

\textsuperscript{34} Getting access to baggage reclaim is vital though Airports are reluctant to allow entry, especially for long periods of time.
Table 5-1: Pilot Survey - People Approached by Residency

<table>
<thead>
<tr>
<th>Country</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>137</td>
<td>46.8</td>
</tr>
<tr>
<td>Ireland</td>
<td>81</td>
<td>28.7</td>
</tr>
<tr>
<td>US</td>
<td>39</td>
<td>13.7</td>
</tr>
<tr>
<td>Mainland Europe</td>
<td>11</td>
<td>4.1</td>
</tr>
<tr>
<td>Canada</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>Australia</td>
<td>5</td>
<td>2.0</td>
</tr>
<tr>
<td>South Africa</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>Unknown</td>
<td>8</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>293</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Primary Research

There were a total of 293 persons approached during the two weeks of the pilot-survey, including 137 British tourists, accounting for only 46.8 per cent of the total. A significant percentage (28.7 per cent) of people approached were Irish or UK born people living or working in Ireland. Americans accounted for 13.7 per cent, followed by Mainland Europeans with 4.1 per cent, Australians with 2 per cent and Canadians and South Africans with 1 per cent each.

As one of the major objectives of the current pilot-study was to identify any difficulties tourists might have in understanding and filling out the diary questionnaire, meeting tourists after they had experienced the diary recording was crucial for the purpose of the study. Fifty-one of the 89 tourists who agreed to co-operate were asked to meet the researcher for a short interview on the date of departure. From the remaining 38 travel parties, 12 were either unavailable for an interview due to either very early departure time, flying back from another airport or they rejected the interview for convenience reasons. Twenty-six tourists were intentionally not asked to attend an interview in order to compare the response rates for the two groups.

Logistical difficulties: The main logistical difficulties encountered during the process of questionnaire distribution were as follows:

- The time gap between the tourists’ arrival in the baggage reclaim area and the arrival of the luggage was often very short (sometimes the luggage was on the conveyor belt before tourists arrived). This made it difficult to approach tourists...
because once the luggage is present it is almost impossible to get the tourists’ attention;

- A difficulty arose when some of the British flights were delayed and more than two flights arrived at the same time. The area became very crowded and people were less receptive to the survey and

- The distribution was delayed when the interviews started. It was decided that the date of departure and the check-in area best suited the survey purpose. As the check-in began two hours before the flight’s departure, the researcher had to be at the check-in desk two hours before a flight that was known as a departure flight of survey participants. As a consequence, there were many incoming flights missed and fewer questionnaires distributed.

5.3.3.2 Response Rate

A total of 137 British tourists were approached during the two weeks of the pilot-survey. Eighty-nine (65 per cent) of them agreed to co-operate, 25 (18 per cent) rejected the survey immediately, without knowing anything about the topic of the survey, and 23 (17 per cent) rejected the survey after explanation of the terms of questionnaire completion. It seems obvious, that the 25 people would have rejected any survey, hence this rejection is not related to the diary approach. The remaining rejections were due to the following reasons:

- Too busy to have extra activities (62.2 per cent);
- Visiting family so no expenses (13.0 per cent);
- Scared of figures or not accurate in recording (13.0 per cent);
- Prize too small to deserve getting involved (4.4 per cent) and
- Do not want to know “own expenditure” (4.4 per cent)

The overall response rate for the pilot-survey is 46.1 per cent. Response rates refer to those people who took the questionnaire and returned it, including both travel parties who came for the pre-departure interview and those who posted back the questionnaires. From the 51 travel parties who were asked for an interview, only 21 (representing 41.2 per cent) met the researcher and another two posted the
questionnaires raising the overall response rate for this group to 45.1 per cent. The response rate for those who refused to attend an interview was 41.7 per cent while the one for the non-interview group was slightly higher, accounting for 50.0 per cent.

5.3.3.3 Interview Findings

All 21 interviewed persons stated that they understood the questionnaire, thanks to exhaustive notes, and an example that was handed out with the survey. The diary was usually updated daily. The interviewees claimed that although they did not carry the questionnaires with them when expenses occurred, the figures were accurate because of the detailed breakdown into expenditure categories and sub-categories, and because they still had a fresh memory. However, some tourists also voiced that it was inconvenient to fill in the diary every day. In order to make it easier to remember filling in the diary, some tourists associated it with a daily event, e.g. a coffee-break, or dinner, whereas others simply kept the diary in a visible place.

5.3.3.4 Questionnaire Amendment

Although the interviews identified few difficulties with diary completion some ambiguities were discovered during data inputting. As a consequence, some of the questions were amended (see Appendix B for the initial questionnaire):

- As many couples (who recorded expenditure for both persons) ticked the self-expenditure box instead of the group expenditure box, one more option was added to question 5.1. Respondents now have the option to record self, couple or group expenditure.

- Question 7, referring to the annual income, was modified in an attempt to make it clearer. Separate columns for two chief wage earners have replaced the single column. This amendment was necessary due to the fact that some respondents summed up the wages for two persons in the one column.

- Eight respondents (20 per cent) reported a non-self funded trip and only two of them gave details. As a consequence it is believed that Question 12 referring to the type of trip (self or non-self funded) was not clear enough. A sub question was added in order to get information about the origin of funding (i.e. inside or outside Republic of Ireland).
• Question 13, referring to the time of recording, was re-phrased because of varied interpretations by different respondents. As elimination of “memory decay” is thought to be a major advantage of diary surveys, it is very important to check if all expenditures were recorded on the day of occurrence.

5.3.3.5 Summary of the Main Issues Addressed and Findings

Markwell and Basche (1998) stress that a significant methodological issue for tourism research is reactivity in the research setting, i.e. that tourists may be reluctant to participate in studies which involve interviews or require questionnaire completion (simply because these are perceived as a source of disturbance). A potential remedy for such an issue is the provision of incentives in the form of a free draw entry to compensate for any disturbance. Reactivity was addressed in the pilot-survey by introducing a draw for a cash prize as an incentive (€500). This seems to be a potential remedy, as the response rate could be considered quite high for this kind of survey.35

The optimum period of time for recording the expenditure was addressed during the pilot survey. The aim was to ascertain whether response rates are compromised by increasing the number of days respondents have to complete the diary. The researcher tried to explore the best duration for expenditure-recording by leaving it to the tourists’ for how many days they want to keep a diary. This was intended to alleviate the burden of filling out a diary for every day of the stay. However, only one out of the 41 respondents opted not to fill in the diary for the entire stay, but only for 4 out of 9 days.

It is quite common that tourists do not travel alone, so the issue of differentiating between individual and group expenditure needs to be addressed. The pilot-survey allowed both group and individual diaries, leaving it up to the participants to choose. Recording group expenditure is more difficult, as it requires sustained co-operation by all the party members. During the pilot survey, 26 out of 41 (63.41 per cent) respondents were recording group expenditures, compared to 15 reporting individual expenditure.

35 since no survey has been undertaken without cash prize, it is impossible to estimate the impact of the incentive on the acceptance and return rates.
5.3.4 Main Survey – Sampling Design

Collecting and analyzing data from all members of a population is called a census (Saunders et al., 2000). However, time constraints, limited budget or access restrictions make a census usually not a suitable option for researchers. This section aims to describe the process of obtaining a sample, which is intended to provide consistent and reliable information on the population of the study. The target population, the sample unit and the sampling plan will be discussed.

5.3.4.1 Target Population

According to data provided from the Central Statistical Office, British residents (at this time) accounted for almost 53 per cent of the international visits to Ireland. Tourists coming from other European countries, USA and Canada are also important and accounted for 30 and 14 per cent, respectively, of the total number of international visits to Ireland. Keeping in mind the British dominance of the international tourism market in Ireland and its important economic contribution, it was decided to focus the current research on this segment. Due to budget constraints, a representative sample at the national level was impossible, hence it was decided to limit the study to an analysis of British tourists that arrive to Shannon Airport.

5.3.4.2 The Sampling Unit

According to the Eurostat Directive 95/57/EC the statistical unit for the collection and presentation of the tourism statistics is usually the visitor, but there are situations when the collection unit is more appropriately the travel party. Hence, for the purpose of the current research the sample unit is the individual tourist or the travel party in the case when the expenditure refers to a group and the individual member’s expenditure cannot be singled out.

5.3.4.3 Sample Frame, Time Frame and Sampling Method

The ideal sampling frame would have been a comprehensive database of all British residents arriving at Shannon Airport. However, such a database does not exist. Hence, a flight-based sampling frame was applied. A list provided by Shannon Airport and containing all the incoming and outgoing flights was used as a sample frame for selecting (sampling) the flights to be attained.
The survey was carried out during the period March 2006 – Oct 2007. For the purpose of the current study it was intended for the sample to be spread over one year in order to capture seasonal trends in tourists’ arrivals. Due to financial constraints, daily distribution of the questionnaires was not possible. Hence, random days of the week were selected. Since the number of flights per day varied according to the weekday, the days with a higher number of scheduled flights were given a higher probability to be selected.

As regards the sampling method, random sampling was considered optimal for the purpose of this study. Random tourists were handed out an expenditure diary on arrival, and they were asked to mail it back at the end of the trip. In order to guarantee a random sample, every second tourist waiting for his or her luggage was approached. However, the frequent movement of tourists was not taken into account. A questionnaire with a pre-paid and pre-addressed return envelope was handed out to each tourist who accepted to take part in the survey after he or she was introduced to the topic of the research.

5.3.4.4 Sample Size

In an ideal situation, the researcher would use the data provided by the entire population under study to draw conclusions. Unfortunately, most of the studies are undertaken in conditions that are far from being ideal, for the reasons stated above. Hence, researchers often use information collected through a survey to generalize findings from a sample back to a population, within the limits of random error (Barlett et al., 2001). According to Holton and Burnett (1997, cited in Bartlett et al., 2001, p.43), “one of the real advantages of quantitative methods is their ability to use smaller groups of people to make inferences about larger groups that would be prohibitively expensive to study”.

One of the most asked questions concerning sampling is “What size should the sample be?” Unfortunately there is no general consensus regarding optimal sample size. Different statisticians provide different guidance and use different formulas in attempts to determine the most suitable sample size for a study. The decision about sample size depends on a number of factors including time, cost, non-response, heterogeneity of the population, type of analysis (Bryman, 2004), population size, the allowable sampling error (Israel, 2003). Bartlett et al. (2001) state that some of the techniques used for
analyzing the data might have special requirements regarding the sample size, thus it should be one of the considerations when determining the optimal sample size for the study. The authors argued that in order to be able to apply regression analysis, the ratio of observations to independent variables should be at least 1:5. If this minimum is not achieved, there is a risk of overfitting, i.e. making the results too specific, thus lacking generalizability (Hair et al, 1995; cited in Bartlett et al., 2001).

Since regression analysis will be extensively used throughout the analysis of the data, the minimum requirements concerning the sample size should be met. A number of maximum ten independent variables will be included in different models; thus a minimum of fifty cases are necessary. Since the study is not limited to a general analysis of the British tourist market to the Shannon Region, but rather tries to provide a detailed expenditure analysis for different tourist cohorts (VFR, business, holidaymakers), it was aimed for a minimum of fifty cases for each cohort. This led to a minimum required sample size of 150 observations. However, the number of tourists visiting the region for different purposes of visit is not equal, hence for an accurate analysis this proportion should be reflected in the total sample. Consequently a sample size between 250 and 300 observations was deemed appropriate for the current research. A total of 297 questionnaires were used for the final analysis.

5.3.4.5 Response Rate

According to Biemer and Lyberg (2003), response rates are generally considered to be the most widely compared metric for judging the quality of surveys and ironically, they are also one of the most controversial features of a methodology (Johnson and Owens, 2003). One of the concerns related to the diary method is the longstanding assumption that the relatively low response rate makes it prone to errors as a consequence of response bias. The participation of tourists in diary surveys tends to be low since few vacationers welcome an additional task. In addition, it is believed that tourists with certain types of personalities may be more likely than others to keep the diaries. This issue is addressed in the non-response analysis that follows.

Table 5.2 presents detailed information related to the response rate. The total number of tourists approached during the process of questionnaire distribution, the number of British tourists approached, the number of tourist rejecting the survey as well as the
number of total distributed questionnaires are shown. The initial response rate as well as the overall useable response rate is also reported.

*Table 5-2: Response Rates*

<table>
<thead>
<tr>
<th>Total no. of tourists</th>
<th>No. of British tourists</th>
<th>No. of British tourists who rejected the survey</th>
<th>No. of British tourists who took a diary</th>
<th>No. of returned diaries</th>
<th>Response rate</th>
<th>Useable response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2951</td>
<td>1226</td>
<td>398</td>
<td>828</td>
<td>308</td>
<td>37.2%</td>
<td>297</td>
</tr>
</tbody>
</table>

Source: Primary Research

A total number of 2951 persons were randomly approached during the diary distribution period, from which 1226 or 41.5 per cent were British tourists visiting the Shannon Region. From the British tourists approached, 828 agreed to fill in a diary, resulting in a participation rate of 67.5 per cent. The remaining 398 travel parties refused to cooperate, leading to a rejection rate of 32.5 per cent. Although this percentage might appear to be higher than desired, it is important to note that only a third of the rejections were due to the diary approach. There is reason to believe that the remaining two thirds who refused the survey would have declined to participate in any other survey since the rejection has happened before the introduction to the subject and method of the research.

A total number of 308 diaries have been returned resulting in an initial response rate of 37.2 per cent. The initial response rate is obtained by dividing the total number of diary-questionnaires received by the total number of diaries distributed. Some of the returned questionnaires were incomplete or had missing data on the variable of interest. Eleven diaries have been discarded from the current analysis due to missing data or improper completion; this resulted in an overall useable response rate of 35.8 per cent. According to Yuan (2001), discarding an improper questionnaire rather than trying to interpret the respondent’s expenditure entry produces more valid and defensible results. Because of the major importance placed on the prompt recording of expenses to avoid recall bias, no follow-up waves were used to increase the response rate. A follow-up questionnaire would gather the expenditure data based on recall memory; hence this would invalidate the purpose of the study.
Although a final response rate of 35.8 per cent is lower than one would desire, this is above the average response rate of mailed-back questionnaires and represents a strong increase since a previous diary-based survey conducted in 1998 by our group when a response rate under 10 per cent has been achieved. This response rate is also comparable with a 39 per cent response rate achieved by Wilton and Nickerson (2006) and a 32.5 per cent response rate achieved by Breen et al (2001) in their studies investigating the visitor spending using different diary formats.

5.3.4.6 Non-Response Analysis

The issue of non-response is fundamental to survey bias and accuracy of any models derived from survey data. According to Richardson et al (1996), non-response is particularly problematic if the rejection rates are different across groups that exhibit different behaviour. Since it has been shown in previous studies that tourists’ spending behaviour is a function of different socio-demographic and trip-related characteristics, it is of major importance to investigate whether the non-respondents exhibit different characteristics than the respondents. When non-respondents differ significantly from respondents there is a concern that some groups may be over or under-represented, hence the sample might not reflect the true population (Rylander et al., 1995).

According to Rylander et al (1995), there are few studies that assess the differences between non-respondents and respondents in mail surveys and most of them typically compare the demographic profiles. The authors argue that although this information is useful, there is a need for research that investigates non-response bias in variables that relate to traveller spending. This aspect is particularly difficult to assess in a diary-based survey since the major purpose is to gather expenditure information as close as possible to the moment the expense occurred to avoid any errors caused by the memory decay. Expenditure data from non-respondents can be obtained at a later time, after the trip has been consumed, hence the accuracy of the expenditure data would rely significantly on the memory of tourists.

All tourists who agreed to co-operate were asked to provide contact details including either a postal address, a phone number or an email address. Due to time and financial constraints, it was decided to include in the non-response analysis only those tourists who failed to return the diary and provided an email address as the main contact mode.
Ninety-seven non-respondents\textsuperscript{36} were invited to participate in an online survey. The online-questionnaire contained ten questions aimed to gather information about the socio-demographic and the trip related characteristics in an attempt to investigate the similarity or discrepancy between respondents and non-respondents. The participants were also asked to specify the reason for not completing the initial diary-based questionnaire. From the 97 email addresses, ten proved to be invalid\textsuperscript{37}, hence only 87 questionnaires have been emailed. Eighteen surveys have been returned and were included in the analysis.

Chi-square tests have been applied to investigate the differences between respondents and non-respondents in terms of socio-demographic background and trip-related characteristics. Since one of the requirements of the Chi-square (i.e. the minimum counts for each cell in the contingency table should be at least 5) was not met for all tests, the Fisher’s exact test\textsuperscript{38} has been used. In addition, in the case of a 2 by 2 table (i.e. gender), the Yates’ Correction of Continuity\textsuperscript{39} has been considered.

A chi-square test (with Yates’ Continuity Correction) revealed that the proportion of males and females among respondents and non-respondents is not significantly different; hence there is no association between gender and non-response, i.e. \( \chi^2(1,313) = 0, p > 0.05, \text{Phi}^{40} = -0.009 \). Similar results have been obtained for all tests, indicating that the respondents and non-respondents are not significantly different as regards the socio-demographic and trip-related characteristics.

Keeping an expenditure diary for an entire travel party requires sustained co-operation by all party members to remember expenses and communicating all the information to the diary keeper. Thus one might expect that those tourists travelling in bigger parties might be more reluctant to fill in the diary due to the extra effort involved. An independent samples t-test has been applied to investigate the differences in terms of

\textsuperscript{36} It was decided to select the sample for the non-response survey from those tourists who visited Ireland in the last months of the survey to avoid any confusion in case of multiple visits.

\textsuperscript{37} The email addresses were hand written by the tourists, hence misinterpretations by the researcher might have occurred.

\textsuperscript{38} Fisher’s exact test is a statistical significance test used to determine if there are non-random associations between two categorical variables. The procedure calculates an exact probability value for the relationship between two dichotomous variables. It is generally used where sample sizes are small.

\textsuperscript{39} The Yates’ Correction for Continuity compensates for the overestimate of the chi-square value when used with 2 by 2 table (both variables have only two categories) (Pallant, 2007)

\textsuperscript{40} Phi is a measure of the effect size. According to Cohen (1988), a value of 0.10, 0.30 and 0.50 indicates a small, medium and high effect.
total party size between the respondents and non-respondents. The results revealed no significant differences, i.e. $t(315) = -1.59$, $p = 0.112$ (two-tailed). The often stated concern regarding the greater reluctance of tourists travelling in bigger parties to co-operate is not supported by the analysis in this study.

Concerning the reason for non-response, it was found that only one tourist decided against co-operation because of the nature of the survey. Being “busy” or questionnaire “was lost” were the reasons most frequently reported, accounting for 43 and 50 per cent respectively.

5.3.4.7 Sampling Error

Sampling error is virtually unavoidable when a survey rather than a census is employed to gather the research data (McDaniel and Gates, 2001). Estimates based on any single sample would be likely to vary from the true values for the population and the difference is referred to as the sampling error (NSUK, 2004). According to Bailey (1994, p.100), “standard error of the mean is the best estimate of the sampling error”. The standard error measures the precision with which the sample estimates approximate the true population-values. The standard error for the mean spending per person per day, which is the variable of interest for the current study, was calculated as the ratio between standard deviation and the square root of sample size, and was in 3.89. The standard error can be converted into a confidence interval, which indicates the degree of uncertainty surrounding the estimate by providing a range of values, which is likely to contain the population parameter of interest. Confidence intervals are calculated for different levels of confidence selected by the researcher. Most researchers opt for the 95 per cent level which means that if the same population is sampled an infinite number of times and interval estimates are calculated in each occasion, the resulting intervals would contain the true population parameter in approximately 95 per cent of the cases (Boslaugh and Watters, 2008). The 95 per cent confidence interval for the mean expenditure per person per day was $103.89 \pm 7.2$.

According to DSD (2008, p.77), “assessing the reliability of an estimate depends not only on the absolute size of its confidence interval, but also on how large the confidence interval is relative to the estimate itself”. The relative standard error, calculated as the standard error divided by the mean, was 3.7 per cent. The margin of error at the 95 per
cent confidence level was computed as the standard error multiplied by 1.96 and was 7.62 - this was used to construct the relative confidence interval 103.89 +/- 7 per cent. There is no absolute cut-off point for the relative standard error but generally the 25 per cent threshold is used (OESR, 2011), hence estimates with a relative standard error above 25 per cent should be treated with caution. A relative standard error of 3.7 per cent is well below this threshold, hence the estimates from the current survey are considered reliable.

5.3.5 Diary Evaluation

Based on a review of the relevant literature, Johnson and Bytheway (2001) suggest that diaries should be evaluated on five dimensions: representativeness, difficulties, quality of data, influencing behaviour and ethical considerations. Most of these aspects have been addressed during the pilot study described in section 5.3.3. In addition, the current section will point out the main findings in a succinct way to make the overall evaluation clear.

5.3.5.1 Representativeness

Representativeness expresses the degree to which a demanding research instrument such as a diary can reduce participation rates, leading to a sample more biased than otherwise might be the case (Johnson and Bytheway, 2001). As rehearsed in Chapter 4, one of the concerns about diaries is the relatively low response rate, which could introduce bias due to an unrepresentative sample. The overall usable response rate for the current research is 35.8 percent. While lower than desired, this rate is significantly higher than the rate obtained in 1998 when a similar survey conducted by the NCTPS’s team yielded an overall response rate below 10 per cent and it is comparable with other studies like Wilton and Nickerson (2006) and Breen et al (2001) which revealed a response rate of 39 and 32.5 per cent, respectively. Sections 5.3.4 provide detailed information related to participation rates, refusal and compliance.

It is often assumed that tourists with certain personalities may be more likely to keep a diary; hence the sample might be biased and the results not generalisable to the entire population. Moreover, since keeping a diary is quite a demanding task and requires the co-operation of all persons in a travel party, it is believed that although willing to

Estimates with a relative standard error higher than 50 per cent are considered unreliable
participate initially, tourists travelling in big parties or staying at the destination for longer periods of time might terminate their co-operation after some time. These aspects have been addressed in the non-response analysis presented in section 5.3.4. The results revealed no statistically significant difference between the respondents and non-respondents who participated in an online non-response survey. While recognising that some cohorts might be under-represented, e.g. tourists without baggage have been omitted due to logistical issues, the sample of 297 travel groups is sufficiently representative of the wider population to allow the generalisation of results.

5.3.5.2 Difficulties

Some of the participants might be “unable to complete the diary due to visual impairment, problems of manual dexterity or limited literacy skills” (Johnson and Bytheway, 2001, p.189) or a poor understanding of questions. These aspects have been addressed during the diary piloting and a detailed description is provided in section 5.3.3. Problems like visual impairment, dexterity or limited literacy skills were not evident in the pilot study. Even if some of the participants might be confronted with one or more of these difficulties, they are easily overcome since only one member of the party needs to complete the diary. However, some ambiguities in the formulation of questions were discovered during the diary piloting and consequently adjustments were made. The completeness of the diaries was highly satisfactory and inconsistencies were not observed in the analysis.

5.3.5.3 Data Quality

There are a number of concerns surrounding the quality of data provided in diaries. Since the main advantage of the diary approach is the minimisation of the reliance on memory, it is of high importance that participants make the entries as close to the time the expenditure occurred as possible. It was a concern that some of the participants might have recorded several days at a time. A question has been introduced at the end of the diary to check if the entries were made daily. Initially this was a cause of concern, since some of the respondents responded negatively to this question. However, the issue was addressed during the interviews and it proved to be less problematic than initially thought. The participants in the interview reported that although they did not fill in the expenditure on the same day, they are confident of accuracy since they were
recorded with only a small delay (second day) and the detailed structure of the diary was of help to remind all possible spending categories. Evidence from the literature suggest that a 24 hours recall period is optimal for gathering accurate travel expenditure data (Frechtling, 1987; Howard et al, 1991). Some authors raised a potential decline in the detail recorded in the diaries as a result of fatigue (see Kensley, 1979 and Chapter 4). This is particularly important for diaries that need to be kept over longer periods of time. There is no evidence of such a problem in the current research. Expenditure on some categories, e.g. food and drinks or accommodation, would be expected to occur every day. This allows an easy way to check for the level of detail throughout all expenditures, as a decline in the level of detail would also affect this expenditure. Fortunately, there is no evidence of this in the completed diaries. During the pilot study, the participants were given the possibility to fill in the diary for the entire period of stay or for selected days (convenient days). Only one of the 41 respondents opted to keep the diary for a shorter time and as such fatigue was not really a cause of concern. This is good evidence of consistency in diary keeping.

5.3.5.4 Influencing Behaviour

When data is collected by a diary for an extended period the effect of the diary-keeping on the behaviour and reporting patterns of the participants is an important problem. This is usually referred to as a “conditioning effect” and is very difficult to be assessed. It is often reported that keeping a diary might influence the behaviour of participants, hence the data would not reflect the real behaviour but an adjusted one. There is a danger that by recording their expenses in a regular basis, tourists might become more aware of the amount spent and consequently alter their spending. In general, it seems likely that expenditure would be reduced if this issue arises. This aspect was investigated during the pilot study, by asking the participants in the interview if they perceived any change in their spending behaviour in the light of their diary keeping. None of the respondents were aware of any change. One reason might be because generally the time of visit is for many people the only time when financial concerns are ignored. However, this should be treated with some caution since a change in behaviour might be unconscious.
5.3.5.5 Ethical Considerations

According to Johnson and Bytheway (2001), the completion of a diary might cause undue distress, anxiety or inconvenience to the respondents. The nature of the current survey makes it less prone to these kind of issues. The participation was not compulsory and anonymity was assured.

5.4 Data Analysis

The aim of this section is to briefly introduce the analytical and statistical techniques that were applied in the current research. The description will focus on presenting how the techniques were applied rather than a detailed account of the formulas and principles on which the tests are based. Descriptive statistics such as frequencies, percentages and standard deviations were used to summarise respondents’ characteristics.

5.4.1 Database Set-Up

The Statistical Software for Social Sciences (SPSS Inc., Chicago, IL) was chosen as the best available statistical package to be used for the analysis of the diary questionnaires. One or more categorical variables were defined for every question included in the first part of the questionnaire, leading to a total of 38 categorical variables, e.g. for encoding age and gender of people travelling in one party, 16 continuous variables were defined to assign them to the applicable cohort. The diary itself was encoded into 728 continuous variables. A variable has been defined for each expenditure subcategory for every day, e.g. the accommodation expenditure column led to a total of 8 * 14 = 112 variables: there were 8 different kinds of accommodation (hotel, bed and breakfast, self-catering, caravan, hostel, cabin-cruiser, camping, and visiting friends and relatives), and 14 is the maximum number of days covered by the diary.

In addition to the initially defined variables, there were another 24 categorical variables, mainly for the purpose of dealing with accommodation issues, and 1410 continuous variables based on the expenditure data. The additional variables were computed either by using the Compute option from the SPSS menu bar or by using the syntax editor to specify macros for computing the variables.
5.4.2 Data Screening and Cleaning

One of the first and most important, but unfortunately also one of the most neglected, steps in any data analysis is the data cleaning or scrubbing process. Data should be screened in order to identify and remove any incorrect values or inconsistencies in the data set to improve the quality of the data. Unfortunately this process is tiring and time consuming, accounting for up to half of the time needed for data analysis. Even though it is often ignored, with data analysts not even being aware of its necessity, data cleaning needs to be the first step in any data analysis in order to ensure accurate results (Rahm and Do, 2000; Chapman, 2005:1).

For identification of possible inconsistencies in the data set, the following descriptive techniques were applied to each variable:

- Tables of frequencies were drawn for each categorical variable in order to capture any typos or values that fall out of the variable’s assigned domain (for instance a value of “3” for the variable “Gender” that is defined for the values 1 for male and 2 for female) and

- The descriptives including mean, median, minimum, maximum, range and standard deviation were run for all expenditure variables. Since expenditure values cannot be less than zero, a standard deviation higher than the mean indicates extreme values, and attention is needed for these cases. The type of expenditure variables was Numeric with two decimals, so these variables were more prone to typos, e.g. a misplaced comma can change a unit into thousands, having a critical impact on the final results.

Analyzing the minimum and maximum for every variable is a simple and useful technique for detecting suspicious values in the data set. For instance a value of €1200 for petrol in a single day is highly unlikely so we can be quite certain that an error occurred. If we observe that most of the values, especially for expenditure data, fall within a certain range of values, any value that is far out of the range may be a data error.

The next step, after identifying atypical values, was to go back to the diary to investigate whether the value was an inputting mistake or a genuine value. In the first
case, the value was corrected, in the second the case was analyzed in more depth (see section 5.4.4 on outliers).

The SPSS data validation module was used to perform a variety of data checks for the individually computed variables and cross-variable checks. Checking for negative values for expenditure data or for the length of stay was performed as well as tests to capture inconsistencies such as the number of people covered not being in accordance with the expenses reported.

5.4.3 Dependent and Independent Variables

Total spending or spending per capita per diem on different expenditure categories (measured in the Irish medium of exchange, the Euro) served as the dependent variables and socio-demographic and trip related variables were the independent (explanatory) variables.

For the purpose of identifying the main determinants of tourism expenditure, which is one of the intended outputs of the analysis, a number of 8 independent variables were selected: 3 socio-demographic variables, i.e. gender, age, income, and 5 trip-related variables, i.e. size of party, number of adults, presence of children in the party, purpose of visit, length of stay, type of accommodation.

The variable of interest, per capita per diem expenditure was computed as a total of all expenditure categories divided by the number of people in the party and by the length of stay. The first step after the data cleaning process is to check whether the assumptions for parametric data are met by the dataset because parametric tests were identified as an important tool for the purpose of this study. It is well known that most of the statistical techniques are sensitive to outliers. Hence, an “outliers analysis” was performed first.

5.4.4 Outlier Analysis

The outliers are defined as cases with values well above or well below the majority of the other cases. One simple way to detect the outliers is by analyzing the histogram and the Box plot associated with the variable of interest. The histogram and box plot for per capita per diem expenditure revealed two extreme values, i.e. cases that extend more than 3 box-lengths from the edge of the box, and a number of outliers, i.e. more than 1.5
box-lengths from the edge of the box. The z-scores for per capita per diem expenditure were also analyzed to get an insight about how many scores fall within certain limits.

In a normal distribution, one can expect to find 95 per cent of the absolute values to be less than 1.96, 5 per cent greater than 1.96, not more than 1 per cent > 2.58 and no one above 3.29 on the corresponding Gaussian bell graph. The following table presents the z-scores for the variable of interest:

Table 5-3: Outliers: Z-Scores

<table>
<thead>
<tr>
<th>outier1</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Absolute z-score &lt; 1.96</td>
<td>285</td>
<td>95.6</td>
<td>95.6</td>
<td>95.6</td>
</tr>
<tr>
<td>Absolute z-score &gt; 1.96</td>
<td>4</td>
<td>1.3</td>
<td>1.3</td>
<td>96.9</td>
</tr>
<tr>
<td>Absolute z-score &gt; 2.58</td>
<td>5</td>
<td>1.8</td>
<td>1.8</td>
<td>98.7</td>
</tr>
<tr>
<td>Absolute z-score &gt; 3.29</td>
<td>4</td>
<td>1.3</td>
<td>1.3</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>298</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

The table shows that 95.6 per cent of the values are smaller than 1.96, which accords with expectations. From the remaining 4.4 per cent, 3 per cent are greater than 2.58 indicating the presence of outliers. Even more obvious, the 4 values greater than 3.29 mark cases that form significant outliers and needed further investigation. The complete treatment of outliers is described in Appendix C. The following section comprises a brief summary of the main statistical techniques applied to analyse the data.

5.4.5 Statistical Analysis

Following the data screening and cleaning, a series of statistical and data mining analyses were conducted to address the research questions. The choice of technique for data analysis accounted for the need to achieve a specific research objective and the suitability for the level of measurement of the variables involved. When more than one technique proved to be suitable for the analysis, the advantages and disadvantages of one method over the other were taken into consideration before making a decision. Table 5.4 summarizes the main objectives of the current research and the techniques employed to fulfil these objectives.
Table 5-4: Data Analysis Techniques Employed in the Current Study

<table>
<thead>
<tr>
<th>Objective</th>
<th>Data analysis technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Profile</td>
<td>Descriptive analysis including the computation of frequencies, means, crosstabulations</td>
</tr>
<tr>
<td>Assessing the impact of socio-demographic and trip-related characteristics on expenditure</td>
<td>Hierarchical Multiple Regression Analysis</td>
</tr>
<tr>
<td></td>
<td>Non-Parametric techniques: Kruskal-Wallis Test and Mann-Whitney test</td>
</tr>
<tr>
<td>Investigating the day-to-day variation of expenditure</td>
<td>Coefficient of Variation and Graphical Representations</td>
</tr>
<tr>
<td></td>
<td>Repeated Measure Analysis of Variance (RMANOVA)</td>
</tr>
</tbody>
</table>

The initial step of data-analysis was to provide a description of the full sample. Descriptive statistics in the form of percentage frequencies, means, medians, standard deviations and cross-tabulations were computed. Parametric and non-parametric techniques were used to investigate the determinants of tourist expenditure. Regression analysis was applied when all the parametric assumptions were met. Non-parametric techniques like Kruskal-Wallis and Mann-Whitney Tests were used as an alternative to regression when data failed to meet all the requirements imposed by regression analysis. A graphical analysis of the mean expenditure and coefficient of variation was initially used to investigate the day-to-day variation of expenditure over the stay. After identifying a general pattern, the “repeated measure” analysis of variance was employed to validate the pattern by investigating the statistical significance of variations. A data mining technique, i.e. the ID3 algorithm for inducting decision trees, was used to build an expenditure-based segmentation model. The rationale for the selection of the techniques employed as well as a summary description is provided in the following subsection.

5.4.5.1 Regression Analysis

According to Cai (1996), classical regression analysis with an ordinary least square estimator (OSL) is the statistical technique most commonly used for empirical studies in consumer behaviour. In the linear regression model, the dependent variable is assumed to be a linear function of one (simple regression) or more independent variables (multiple regression). Since one of the objectives of the current research is to
investigate the simultaneous impact of socio-demographic and trip-related characteristics on tourist expenditure, multiple linear regression has been applied. The dependent variables were the different spending categories while the independent variables included in the models were different socio-demographic and trip-related characteristics. The model can be expressed by the following formulas:

\[
\text{Expenditure} = f (\text{socio-demographic characteristics, trip-related characteristics})
\]

\[
\text{Expenditure} = \beta_0 + \beta_1 \cdot X_1 + \ldots + \beta_n \cdot X_n + \epsilon
\]

where: \(\beta_0, \beta_1, \ldots, \beta_n\) – regression coefficients;

\(X_1, \ldots, X_2\) – independent variables included in the model;

\(\epsilon\) – the error term.

From the three main types of multiple regression analysis, i.e. standard, hierarchical and stepwise, hierarchical regression has been chosen for the current analysis. Hierarchical regression is used to evaluate the relationship between a set of independent variables and the dependent variable, controlling for the impact of a different set of independent variables on the dependent variable.

In hierarchical regression or sequential regression, the independent variables are entered into the equation in the order specified by the researcher based on theoretical grounds (Pallant, 2007). The two groups of explanatory variables were entered in two different blocks; the first block contains the three socio-demographic characteristics of respondents and the second block contains the trip-related characteristics. This approach allows an assessment of each independent variable in terms of what it adds to the prediction of the dependent variable (after the previous variables have been controlled for). It also allows facilitates assessment of the usefulness of the overall model to predict the dependent variables as well as the relative contribution of each block of variables (Pallant, 2007).

The F-statistic from ANOVA output reveals the overall significance of the model (at the 0.05 level) and the adjusted R squared reflects the variance in the dependent variable that is accounted for by the model. Since the independent variables have been included
in the model in two blocks, the value of R Square Change has been used to assess the additional contribution of the second block (the trip-related characteristics) to explain the variation in the dependent variable.

Data Transformation

Being a parametric technique, regression analysis requires the dependent variable to follow a normal distribution. According to Hair et al. (2006), normality violations can have significant impacts in samples of 50 or less observations, but may be negligible for bigger samples. Although the samples for every sub-set of data analysed were bigger than 50 observations, normality tests have been conducted and transformation techniques were applied when normality was violated. Kolmogorov-Smirnov statistics were used to test for the normality of different expenditure categories used as dependent variables throughout the analysis.

The tests revealed that some of the measures failed the Kolmogorov-Smirnov statistics with significance levels less than 0.05, hence data transformation was necessary. Logarithmic and square root transformations were applied to each non-normal variable. The transformation that performed best has been selected and further used in the analysis.

Testing the Multiple Regression Assumptions:

According to Pallant (2001), multiple regression is one of the most sensitive statistical techniques and meeting all of its assumptions is of a major importance. When these assumptions are violated, the results may be questionable, resulting in a Type I or Type II error, or over- or underestimation of significance or effect sizes (Osborne and Water, 2002). Pedhazaur (1997, cited in Osborne and Water, 2002, p.n/a) underlines that information about “the situations when violations of assumptions lead to serious biases, and when they are of little consequence, are essential to meaningful data analysis”. However, there is a dearth of research on these issues. Osborne et al (2002) stressed that this creates a situation in which there is an impressive body of literature in social science, but one is forced to question the validity of many results and conclusions as there is no information available as to whether the assumption of the statistical tests are met. The following section provides a summary of the tests conducted in order to
investigate the compliance of the sample with the required assumptions. When violation of one or more assumptions occurred, the remedial actions are highlighted.

**Sample Size**

Sample size plays an important role in estimating and interpreting regression results. Results based on small sample sizes might not generalize with other samples and hence they are of little scientific value. Different authors tend to give different guidelines concerning the number of cases required for multiple regression (Pallant, 2007). The number of parameters to be estimated also influences the sample size. As a rule of thumb, a minimum of five cases per predictor is required but there is an absolute minimum of fifty respondents.

The current analysis tests the effect of nine predictor variables on the level of tourist expenditure. Since one of the objectives is to investigate the determinants of expenditure of different tourist cohorts, a minimum number of fifty cases for each group is necessary. The smallest sample size for the groups analysed was 56 observations, which implies that the assumption of an adequate sample size is met.

**Outliers and Extreme Values**

An outlier is a case that differs substantially from the main trend of the data and can cause the model to be biased as it affects the values of the estimated regression coefficients (Field, 2005). The presence of outliers or extreme values was investigated through case-wise diagnostics obtained as part of the regression output. In an ordinary sample one would expect 95 per cent of the cases to have standardized residuals within about (-2, +2) or 99 per cent within (-2.5, +2.5) (Field, 2005).

The influence of cases carrying a standardized residual that fell outside of the boundaries (discussed above) was investigated by using the Cook’s and Mahalanobis distance. Cook’s distance is a measure of the overall influence of a case on the model. According to Cook and Weisberg (1982, cited in Field, 2005) a value greater than 1 may be a cause for concern. Mahalanobis distance measures the distance of cases from the means of the predictor variables. There is no clear guideline regarding the values that should be cause for concern. Barnett and Lewis (1978, cited in Field, 2005) suggest
that for medium size samples (around 100 observations), values above 15 are considered critical.

Although some cases exceeded a Mahalanobis distance of 15, no case had a Cook’s Distance$^{42}$ greater than 1. The investigation of the DFBETA$^{43}$ values indicates that no case has an undue influence over the regression parameters. These diagnostics give no reasons for concern for all models tested and suggest that each sub-sample analysed conforms to what one would expect for an accurate model.

**Multicollinearity**

Multicollinearity is a consequence of the occurrence of highly correlated explanatory variables. One of the assumptions of multiple regression is that there should be no perfect multicollinearity, i.e. no perfect linear relationship, between two or more independent variables. The predictor variables should not have a correlation coefficient greater than 0.9. The existence of multicollinearity has been tested through the variance inflation factor (VIF), which is part of the collinearity diagnosis provided by the regression output. According to Myers (1990), a value above 10 indicates that multicollinearity is likely to bias the regression model. The values of VIF were acceptable, indicating no evidence of multicollinearity. This has been further confirmed by examining the correlation matrix where all coefficients were much lower than the maximum acceptable limit of 0.9.

**Normality, Linearity, Homoscedasticity and Independence of Residuals**

Normality, linearity, homoscedasticity and independence of residuals refer to various aspects of the distribution of scores and the nature of the underlying relationship between variables. The residuals should be normally distributed around the predicted dependent variable (DV) score, and should have a straight-line relationship with

$^{42}$ Stevens (1992, cited in Field, 200) stressed that if a case is a significant outlier but its Cook’s distance is smaller than 1, there is no real need to delete that case since it does not exert a large effect on the regression analysis.

$^{43}$ DFBETA represents the difference between a parameter estimated using all cases and estimated when one case is excluded. It helps to identify the cases that have a large influence on the parameters of the regression model. As the units of measurement used affect the difference, the standardized DFBETA is used. An absolute value above 1 indicates a case that substantially influences the model parameters (Field, 2005)
predicted DV scores and their variance about predicted DV scores should be the same for all predicted scores (Pallant, 2007).

These assumptions were checked through the residual scatter-plots, which are generated as part of the multiple regression analysis. The Normal Probability Plot showed that the points are located along a reasonable straight diagonal line, suggesting no major deviations from normality in any of the models. The random array of dots evenly dispersed around zero that is depicted in the Scatter-plot of the standardized residuals, indicates no clear relationship between residuals and the predicted values. This indicates consistency with the homoscedasticity assumption.

Durbin-Watson analysis is used to test the assumption of independence of errors, which requires that the residuals or errors in prediction do not follow a pattern from case to case. Possible results of Durbin-Watson analysis range from 0 to 4. As a general rule of thumb, the residuals are not correlated if the value of Durbin-Watson analysis is approximately 2 (Field, 2005), and an acceptable range is 1.5-2.5. The results for all the models fell into that range indicating no violation of the assumption of independence of errors.

5.4.5.2 Repeated Measures ANOVA

As previously discussed, one of the most important and innovative features of diary methodology is the ability to provide precise temporal expenditure-trajectories. Since the analysis investigates the variation of expenditure of the same subjects over the days of visit. In this study a repeated measure analysis of variance (RMANOVA) has been employed. Repeated measure ANOVA is a statistical technique used to test the equality of means when all members of a random sample are measured under a number of different conditions. The hypotheses tested can be expressed as follows:

H₀: There are no mean differences in expenditure among the days of the holiday (\(\mu_{D1}=\mu_{D2}=...=\mu_{Dn}\), where \(\mu_{D1,...,Dn}\) = mean expenditure for day 1, 2,..., n).

H₁: There are mean differences in expenditure among the days of the holiday (the mean expenditure of at least one day is different from the others).
The test statistic for the repeated measures ANOVA is computed as the division between the variance of expenditure between days and the variance expected by chance/error \( (F = \frac{\text{Variance between days}}{\text{variance expected by chance}}) \). A large value of F indicates that the differences between days are greater than would be expected by chance; hence one can conclude that the observed results are unlikely to have risen by chance (Field, 2005).

Preliminary analyses have been conducted to ensure no violation of RMANOVA’s assumptions. RMANOVA carries the standard set of assumptions associated with a standard analysis of variance like level of measurement\(^{44}\), random sampling\(^{45}\), independence of observations\(^{46}\), normality, and homogeneity of variance\(^{47}\). While RMANOVA is robust to violation of normality and homogeneity, failure to meet the requirement of independence of observations can have very serious effects on the outcome (Stevens, 1996, cited in Pallant 2007). This violation produces a non normal distribution of residuals, which results in invalid F-ratios. The most common violations of independence occur when random selection is not applied.

In addition to the standard assumptions, the univariate repeated measures ANOVA requires the assumption of sphericity. The sphericity assumption requires that the variance of population-difference-scores for any two conditions is the same as the variance of the population-difference-scores for any other two conditions. This assumption has been tested using the Mauchly’s sphericity test, which examines the form of the common covariance matrix.

A spherical matrix has equal variances and covariances equal to zero. When the sphericity assumption is violated, the F-tests and associated p-values for the univariate approach to testing within-subjects hypothesis are invalid. Fortunately, there are several

---

\(^{44}\) The dependent variable (DV) should be measured at the interval or ratio level. The DVs in the current research consist of different expenditure categories which are continuous variables (see section 5.4.3 for more details);

\(^{45}\) ANOVA techniques assume that the scores are obtained using a random sample from the population (see section 5.3.4 for a detailed description of the sampling design);

\(^{46}\) The observations must be independent of one another.

\(^{47}\) ANOVA techniques make the assumption that samples are obtained from populations of equal variances; hence the variability of scores for each of the groups is similar (Pallant 2007). Performing the Levene’s test for equality of variances tested this assumption.
corrections that can be applied to produce a valid F-ratio. The Greenhouse-Geisser\textsuperscript{48} correction has been used in the present analysis when the assumption of sphericity has been violated. Consequently, the results will be reported at the corrected degrees of freedom.

### 5.4.5.3 Non-Parametric Techniques: Kruskal-Wallis and Mann-Whitney Tests

Kruskal-Wallis and Mann-Whitney tests have been employed to investigate the differences in spending among different tourist cohorts when the assumptions of the parametric techniques have been violated. One limitation of these analyses is that they are only one factor tests; hence they test the impact of only one variable without considering the interaction among other variables. The Kruskal-Wallis test is most commonly used when there is one nominal variable and one measurement variable which failed to meet the normality assumption imposed by parametric techniques. The Mann-Whitney test is limited to nominal variables with only two categories (i.e. gender).

Like most of the non-parametric techniques, Kruskal-Wallis and Mann-Whitney tests are performed on ranked data. The scores on the continuous variable are first converted to ranks: the smallest value gets a rank of 1, the next smallest a rank of 2 and so on. This process results in high scores being represented by large ranks and low scores being represented by small ranks. The test (H) is computed based on the sum of ranks for each group, total sample size and the sample size for each group following the formulae:

\[
H = \frac{12}{n(n+1)} \sum_{i=1}^{k} \frac{R_i^2}{n_i} - 3(n+1)
\]

Where: \( R_i \) = sum of ranks for group \( i \);

\( N = \) total sample size;

\( n_i = \) the sample size for group \( i \).

The test statistic has a chi-squared distribution with \( k-1 \) degrees of freedom (\( k \) represent the number of groups). If the significance level associated with the test is less than 0.05, there is a significant difference in the continuous variable across the groups. However,

\textsuperscript{48} The Greenhouse-Geisser correction gives rise to a correction factor that is applied to the degrees of freedom used to assess the observed F-ratio (Field, 2005).
the test does not provide any information related to which of the groups differ; hence post-hoc comparisons were performed using the Mann-Whitney test. In order to avoid an inflated Type I error⁴⁹, a Bonferroni correction has been applied hence all results were reported at the level of significance of 0.05 / number of comparisons.

5.4.6 Sample Profile

Many studies of tourist expenditure have shown that tourists’ personal characteristics such as gender, age, education and income, and trip-related characteristics like travel party, purpose of visit, length of stay, type of accommodation used and party composition, are internal inputs that influence the level of spending at the destination. The following section provides a socio-demographic and trip-related profile of the British tourist market to the Shannon Region.

5.4.6.1 Socio-demographic profile

Table 5.5 presents the socio-demographic profile of British tourists visiting the Shannon Region, based on the data collected via the diary questionnaire.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequencies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Percentage</td>
</tr>
<tr>
<td>Gender: Male</td>
<td>109 (252)⁵¹</td>
<td>36.7% (44.6%)</td>
</tr>
<tr>
<td>Female</td>
<td>186 (301)</td>
<td>62.6% (53.3%)</td>
</tr>
<tr>
<td>Age: &lt;24 years</td>
<td>10 (72)</td>
<td>3.3% (12.7%)</td>
</tr>
<tr>
<td>25-34 years</td>
<td>59 (91)</td>
<td>19.9% (16.1%)</td>
</tr>
<tr>
<td>35-44 years</td>
<td>68 (107)</td>
<td>22.9% (18.9%)</td>
</tr>
<tr>
<td>45-54 years</td>
<td>80 (124)</td>
<td>26.9% (21.9%)</td>
</tr>
<tr>
<td>55-64 years</td>
<td>63 (110)</td>
<td>21.2% (19.5%)</td>
</tr>
<tr>
<td>&gt;65 years</td>
<td>15 (49)</td>
<td>5.1% (8.7%)</td>
</tr>
<tr>
<td>Annual Income: &lt;15,000</td>
<td>40</td>
<td>13.5%</td>
</tr>
<tr>
<td>15,001-25,000</td>
<td>50</td>
<td>16.8%</td>
</tr>
<tr>
<td>25,001-35,000</td>
<td>75</td>
<td>25.3%</td>
</tr>
<tr>
<td>35,001-45,000</td>
<td>42</td>
<td>14.1%</td>
</tr>
<tr>
<td>45,001-55,000</td>
<td>34</td>
<td>11.4%</td>
</tr>
<tr>
<td>55,001-65,000</td>
<td>16</td>
<td>5.4%</td>
</tr>
<tr>
<td>&gt;65,000</td>
<td>29</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

Source: Primary Research

⁴⁹ An inflated Type I error or cumulative Type I error represents the probability that any one of a set of comparisons or significance tests is a Type I error. As more tests are conducted, the likelihood that one or more are significant just due to chance (Type I error) increases.

⁵⁰ 2 cases missing for gender and age and 11 cases missing for annual income

⁵¹ The between the brackets refer to the entire travel party composition not only the respondents
Data summarized in Table 5.5 profile a typical British tourist to the Shannon Region as most likely to be a female, aged between 35 and 64 years with a slightly higher probability to be between 45 and 54 years and earns between 25 and 35,000 GBP annually. The figures related to gender indicate a rather imbalanced proportion of male and female tourist. However, the numbers refer to the respondent’s gender\(^{52}\) (the person who keeps the diary) and not to the entire travel party. When all the tourists covered by the diaries are considered, the difference between the proportion of male and female tourists’ is reduced, male and female tourist account for 44.6 and 53.3 per cent respectively. The most frequently reported age group was between 45 and 54 years. Tourists under the age of 24 years and those over 65 years appear to be sparsely represented in the sample. Once again, when the age of all members in the travel parties is analysed, the discrepancy among some age cohorts is reduced. In general, the four age cohorts from 24 to 65 years are evenly spread and account together for more than three quarters (76.4 per cent) of the total sample. The remaining 22 per cent is made of the age cohorts at the end of the age spectrum; tourist ageing 24 years or less account for 13 per cent while tourists over 65 years account for 9 per cent of the sample.

### 5.4.6.2 Trip-related Profile

Table 5.6 presents the trip-related profile of British tourists visiting the Shannon Region, based on the data collected via the diary questionnaire.

\(^{52}\) The imbalance between man and woman respondents is mainly attributed to the fact that women were available to listen to the interviewer, as men were generally busy to collect the bags.
According to the trip-profile, a typical British tourist to the Shannon Region appears most likely to be a holidaymaker (33 per cent) or a VFR (30 per cent) who travels with the partner (54 per cent), uses either a hotel (34 per cent) or stays with the family or friends (37 per cent) and is most likely to be in the region for one to three nights (46 per cent). Holidaymakers and tourists visiting their friends or relatives account for more than two thirds of the sample; however, business tourists also represent a significant 19 per cent. Although the most frequently reported travel party is “couple” (54 per cent), individual tourists account for 30 per cent of the sample. Travelling with family or in the companion of other adults is less frequent, accounting for 19 and 17 per cent, respectively.

A cross-tabulation on purpose of visit and travel party revealed a significant correlation between the two variables, i.e. $\chi^2 (9, 297) = 117.88$, $p < 0.05$. Business tourists’ and VFRs most likely travel alone, while holidaymakers and tourists travelling for other purposes prefer to go with a partner. A significant correlation with moderate effect size has also been found between the purpose of visit and the length of stay, i.e. $\chi^2 (9, 297)$

---

53 Refers to main type of accommodation. For instance if one party stayed 3 nights in a hotel and 1 night in a B&B, the main type of accommodation is considered hotel
= 64.96, p < 0.05, Cramer’s V = .27. Business tourists are short-term visitors with 88 per cent of the sample staying for three days at most while the VFRs and holidaymakers are staying usually for four to six days. A longer length of stay (i.e. more than 10 days) is atypical among all the cohorts.

### 5.4.6.3 Expenditure Profile

Table 5.7 presents the expenditure profile of British tourists visiting the Shannon Region, based on the data collected via the diary questionnaire.

Table 5-7: Sample's Expenditure Profile

<table>
<thead>
<tr>
<th>Tourist cohort</th>
<th>Total expenditure per trip per party</th>
<th>Expenditure per capita</th>
<th>Expenditure per person per day</th>
<th>Length of stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>VFR</td>
<td>468.69</td>
<td>279.19</td>
<td>67.29</td>
<td>4.56</td>
</tr>
<tr>
<td>Business</td>
<td>407.72</td>
<td>362.53</td>
<td>186.55</td>
<td>2.09</td>
</tr>
<tr>
<td>Holiday</td>
<td>1162.05</td>
<td>538.31</td>
<td>106.40</td>
<td>5.16</td>
</tr>
<tr>
<td>Other</td>
<td>712.48</td>
<td>341.13</td>
<td>102.86</td>
<td>3.30</td>
</tr>
<tr>
<td>Total</td>
<td>705.80</td>
<td>385.16</td>
<td>105.78</td>
<td>4.18</td>
</tr>
<tr>
<td>Purpose of visit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td>352.56</td>
<td>352.56</td>
<td>131.80</td>
<td>3.42</td>
</tr>
<tr>
<td>Couples</td>
<td>932.94</td>
<td>463.25</td>
<td>101.01</td>
<td>4.88</td>
</tr>
<tr>
<td>Families</td>
<td>808.73</td>
<td>263.53</td>
<td>67.99</td>
<td>4.25</td>
</tr>
<tr>
<td>Other adult party</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>748.04</td>
<td>418.79</td>
<td>111.95</td>
<td>3.98</td>
</tr>
<tr>
<td>Total</td>
<td>705.80</td>
<td>385.16</td>
<td>105.78</td>
<td>4.18</td>
</tr>
</tbody>
</table>

The data summarized in Table 5.6 shows an average total expenditure of a travel party visiting the Shannon Region of €705. The total expenditure per tourist is on average €385 while the mean expenditure on a per person per day basis amounts to €105. Significant variations are evident in average spending by different tourist cohorts. In terms of per capita per diem expenditure, the business tourists are leading, spending on average €186. Holidaymakers and tourists visiting the region for “other reasons” spend on average €106 and €108, respectively, while VFRs spend as little as €67.

Although the expenditure per person per day of business tourists is exceeding others by 80 per cent and more, the total amount of money spent in the region is higher in other cohorts. The holidaymakers are by far the leaders with an average expenditure of €1162 per trip per party. Significant variations in expenditure are also evident for
different travel parties. Individual tourists are the highest spenders in terms of daily per capita expenditure with an average expenditure of €131, followed by tourists travelling with other adults in the party with an average of €112 per person per day. Those travelling as part of a family group spend the least per capita per diem, the level of expenditure being as little as half of that of an individual traveller. One explanation for the huge difference in spending for the two cohorts is the use of some services like accommodation or car hire that have the same price regardless the number of people in the party that use the service.

5.5 Summary

This chapter introduced and explained the research method adopted in the current research. The chapter began with an overview of the philosophical approach, followed by a detailed description of the study design. The current research has been informed by a positivistic approach, the rationale behind subscribing to this research philosophy being straightforward: the research involved the systematic collection of observable, measurable data which was analyzed through the use of statistical methods in an attempt to develop generalisable statistical models. The sampling design, choice of the survey-instrument, the data collection process as well as the analytical techniques employed, followed the requirements of the quantitative approach, which is closely tied to the positivism philosophy.

Since one of the main objectives of the current research was to investigate the applicability of the diary method as a successful data collection method for gathering tourism expenditure data, a great effort has been placed in describing every step involved in the design and implementation process. Diaries have been chosen over other traditional data collection methods on the grounds of higher accuracy (since the time lapsed between an expenditure occurred and the account of it is minimised) and the potential for additional innovative analysis of tourist behaviour. Despite their advantages, diaries are not problem free. The current research addressed the following concerns that are voiced in the literature:

• Generally low response rates. The survey had a response of 35.8 per cent. While one could consider this response rate lower than desired, no statistical
significant difference was observed between respondents and non-respondents and it was considerable higher than the response rates obtained in other studies;

- Higher probability of some tourists with certain types of personalities or trip-characteristics to participate leading to a biased sample. The non-response analysis showed again no significant differences between respondents and non-respondents.

- Potential change in behaviour. Exit interviews that were conducted during the pilot survey led to the conclusion that tourists did not change their behaviour

- Decrease in the detail as a consequence of fatigue. By analysing regularly re-occurring expenses, e.g. Food and Drink or Accommodation, it was determined that no significant differences between records at the beginning and the end of the stay exist.

The conclusion that diaries provide the expected quality of data is supported by the lack of manifestation of the concerns named above.

Subsequently, the chapter dealt with statistical analysis that, in this research, consisted of two steps. There is the preliminary step of database setup, data screening and cleaning and outlier analysis and the main step of the actual statistical analysis of the collected data through application of statistical methods. These include descriptive techniques, e.g. frequencies, means and cross-tabulations; regression analysis; non-parametric tests, e.g. Kruskal-Wallis and Mann-Whitney test; computation of coefficients of variations and graphical representations; RMANOVA; and finally data-mining techniques. Pre-conditions and assumptions necessary for the individual methods, e.g. normality; multicollinearity; normality, linearity, homoscedasticity and independence of residuals; were also addressed for the required methods.

The following chapters will present the main findings derived from data collected through the diary method.
CHAPTER 6: AN ANALYSIS OF THE DETERMINANTS OF TOURIST EXPENDITURE

As previously discussed, the current research aims to achieve two major purposes: firstly, at the design level the objective was to investigate how the successful adoption of diaries can tackle the deficiencies of traditional methodologies for the collection of expenditure data in tourism and in addition can provide vital elements in some areas where traditional approaches fail to provide accurate data (spending behaviour over the days of the holiday or spatial trajectory of expenditure) and second, at the practical level, the study aimed to investigate the spending behaviour of British tourists to the Shannon Region and to develop a segmentation model which would help the destination marketeers to better target the cohorts who lead to the maximization of their profit. This chapter marks the first step in achieving the second aim of the study and focuses in examining and identifying the determinants of travel expenditure patterns of the British tourist market to the Shannon Region.

The chapter follows a general to specific structure by analysing first the entire sample, followed by the investigation of the expenditure patterns of different poorly researched tourist cohorts.

6.1. Background

A review of the literature indicates a gap in the research on tourist spending at a destination level. Soteriades and Arvanitis (2006) argue that there is a lack of supporting empirical work in tourism spending behaviour stressing the necessity of more research work to better understand expenditure patterns of different tourist segments. Most of the studies investigating the determinants of tourism expenditure have been conducted in the US and the Asia-Pacific region (Dardis et al, 1981; Cai, 1998, 1999; Lee, 2001; Jang et al, 2000, 2003a, 2003b; Wang et al, 2006 among others) with very little focus on European countries (Perez and Juaneda, 2000; Diaz-Perez et al, 2005; Soteriades and Arvanitis, 2006). This chapter aims to shed some light by
providing an in-depth analysis of the spending behaviour of British tourists visiting Shannon Region, by analysing the factors that significantly affect the level of spending.

Factors affecting tourism expenditure have been previously investigated in several studies, leading to the division of these factors into three main categories:

- **socio-demographic characteristics** including nationality, age, gender, educational level, income (Dardis, 1981; Davies and Mangan, 1992; Dardis et al, 1994; Cai et al, 1995; Cai, 1998, 1999; Agarwal and Yochum, 1999; Lee, 2001; Jang et al, 2003a, 2003b; Wang, 2006),

- **trip related characteristics** including purpose of visit, length of stay, travel distance, party size (Hsieh et al, 1997; Seiler et al, 2002; Agarwal and Yochum, 1999; Suh and Gartner, 2004), and

- **psychographic characteristics** including traveller personalities, traveller’s perception and preferences (Schul and Crompton, 1983; Woodside and Lysonski, 1989; Lehto et al, 2002; Wang et al, 2006).

### 6.1.1 Expenditure and Socio-demographic Variables

Socio-demographic characteristics have been widely reported in the tourism literature as good predictors of the level of travel and recreation expenditure. Regarding the strength of each of the socio-demographic variables in predicting tourism expenditure the literature reveals different findings according to the studied market. The following section summarises the most relevant findings related to the relationship between socio-demographic characteristics and travel and recreation expenditure.

Dardis et al (1981) investigated the impact of various socio-demographic characteristics on recreation expenditure using the 1972-73 Consumer expenditure Survey’s data provided by the US Bureau of Labour Statistics. The researchers found that although the age of the household head, education and occupation play an important role in explaining the expenditure behaviour, income is the variable with the highest impact. Regarding the direction of the influence, the study reported that recreation expenditure was positively influenced by income and education and negatively influenced by age of the household head. Gender had not been included as an independent variable in the analysis.
In a study using the United Kingdom Family Expenditure Survey data, Davies and Mangan (1992) investigated the effect of income on hotel and holiday expenditure. The conclusion was that expenditure is income-elastic and the elasticity varies considerably between income groups, with high elasticity for low-income cohorts and lower elasticity for high-income groups. In a later study, Dardis et al. (1994) investigated the impact of socio-economic characteristics on the level of three categories of leisure expenditure: active leisure, passive leisure and social entertainment, using the data from the U.S. 1988 and 1989 Consumer Expenditure Surveys. The authors concluded that there were some differences in the impact of the independent variables on the three leisure categories and that income, number of adults, age, race and education of the household head had a significant impact on leisure expenditures.

Cai et al (1995) examined the impact of socio-demographic variables on the US consumers’ expenditure patterns for different holiday-related products and services like food, lodging, transport and sightseeing and entertainment. Their findings indicated that income, marital status and education have a positive effect on the level of expenditure while the number of children has a negative impact. The results also revealed no clear trend for the impact of age and occupation. In more recent research investigating the impact of socio-demographic characteristics on the variation of holiday food expenditure and lodging expenditure, Cai (1999) identified numerous factors with a significant impact again including income, age, education, ethnicity, marital status, occupation and number of children.

Agarwal and Yochum (1999) investigated the determinants of expenditure incurred by overnight tourists at Virginia Beach and concluded that that the most important determinant of tourist spending is income. Lee (2001) analysed the determinants of recreational boater expenditure on trips. The authors stressed that although boaters’ socio-demographic characteristics, travel distance, type of destination and trip patterns were important determinants of total expenditure, the importance of these factors varied by type of spending. For example, age had a significantly negative effect on groceries and boat fuel expenditure and no effect on other spending categories while income had a positive effect on restaurant, boat fuel and shopping/entertainment expenditure and a negative effect on auto gas.
Using the data from a 1997 In-Flight Survey, Jang et al (2004) analysed the determinants of travel expenditure of Japanese tourists in the US. The socio-demographic variables included in their analysis were age, gender, occupation and income. The findings indicated that income and age had a significant positive effect, while gender was not found to have any significant influence on travel spending. In a study focused on modelling tourism expenditure in Spain, Nicolau and Mas (2005) found that among socio-demographic characteristics income has a positive effect on the level of expenditure and that there exists a non-linear relationship between age and tourist spending.

In a more recent study, Wang et al (2006) examined the effects of socio-demographic, trip-related and psychographic variables on the level of different tourist spending categories. The results corroborated previous studies investigating the effects of independent variables on the level of different spending categories: the importance of each factor varies by type of spending. Regarding the socio-demographic factors used in the analysis, income and age were found to have a statistically significant effect on total expenditure. Additionally, income has been found to be an influencing factor on lodging, meal and restaurants and shopping expenditure, while age was found to be significant in explaining the expenditure on meals and restaurants. The only spending category that was significantly affected by gender was entertainment expenditure, with males spending significantly more than females. Interestingly, the socio-demographic characteristics had no effect on the level of transport spending.

6.1.2 Expenditure and trip related characteristics

There is evidence in the tourism literature that trip-related characteristics are among the most influential variables affecting tourism expenditure (Wang et al, 2006), often contributing to an explanation of expenditure more so than socio demographic variables (Hsieh et al, 1997 cited in Jang et al, 2003).

In a study investigating the determinants of tourism expenditure for British, French, German and Japanese tourists to Canada, Hsieh et al (1997) concluded that travel party size and the number of children in a party are the most important influential factors. Party size has been found to have a positive influence on the level of expenditure of French and German tourists, while the number of children in the party had a negative
impact. Seiler et al (2002) also found a significant positive relationship between the travel party size and the spending level in their study examining the determinants of expenditure of Taiwanese tourists to the US. The results of the study also revealed that length of stay had a significant positive impact on expenditure.

Jang et al (2003) investigated the influence of the travel-related characteristics on the expenditure of Japanese travellers to the US. Their results show that although travelling with companions encourages more spending, the number of adults in a party has no influence on the level of expenditure. The relationship between the number of children and travel expenditure is in contrast with that found by Hsieh et al (1997) in terms of the direction of the influence. The number of children had a positive impact even though it did not show a significant difference. The length of stay was found to have a positive and significant effect on the level of spending of Japanese travellers to the US.

In a different study examining the spending behaviour of Chinese tourists to the US, Jang et al (2004) reported that party size, travel companion, length of stay and purpose of visit (business versus VFR) were found to be significant influential factors of the level of expenditure. The length of visit was also identified as a significant determinant of tourists’ expenditure by Agarwal and Yochum (1999) in their study on overnight visitors to Virginia Beach. The authors concluded that the longer the stay the higher the total spending. The same study also revealed that the type of accommodation has a significant impact on expenditure, hotel accommodation being associated with higher expenditure.

Purpose of visit has been found to be an important factor affecting the level of expenditure in a study of Suh and Gartner (2004) focusing on European, North American and Japanese travellers to Seoul. The results revealed a significant difference in expenditure between pleasure and business travellers, regardless of the country of origin. In a study investigating the determinants of expenditure of visitors to Northern Indiana, Wang et al (2006) reported that significant differences have been identified for three trip related characteristics: number of adults in party, length of stay and travel distance.

The same authors analysed the influence of the travel-related characteristics on different spending categories concluding that the importance of the factors varies by type of
spending. The number of adults and length of stay had a significant impact on lodging, shopping and meals and restaurants expenditure, while travel distance had a significance influence only on the shopping expenditure. The only trip related characteristic that had an impact on the level of attraction- and festival expenditure was duration of stay.

A number of studies focused on studying the impact of trip characteristics on tourists' shopping behaviour, concluding that length of stay (Lawson, 1991 cited in Lehto et al, 2004; Jansen-Verbeke, 1991) and type of accommodation (Lawson 1991 cited in Lehto et al, 2004) were factors significantly impacting on shopping expenditure. In a study analysing Taiwanese tourists’ shopping expenditure, Lehto et al (2004) found that trip purpose, travel party type and travel mode played a significant role in explaining shopping expenditure. The authors concluded that tourists travelling for leisure spent significantly more on shopping than other purpose of visit cohorts; those travelling as the companion of other tourists have a higher expenditure than the individual tourists and joining a guided tour stimulated higher shopping spending.

6.2 An Analysis of The Factors Influencing The Expenditure of British Tourists Visiting the Shannon Region

The objective of this section is to improve the understanding of tourism expenditure patterns by investigating the determinants of the level of spending of British tourists visiting the Shannon Region. Regression analysis was applied to data gathered through the diary survey (see Chapter 5 for a detailed description of the diary method). The socio-demographic characteristics of tourists as well as trip related characteristics have been included in the model.

This section is organised as follows: Section 6.2.1 focuses on the analysis of expenditure determinants including the entire generic sample and contrasts the results with the main findings from the literature; Section 6.2.2 provides a cohort analysis intended to investigate the predictors of the level of spending for tourists visiting the region for different purposes of visit (VFR, holiday or business trips) and Section 6.2.3 summarises the main findings.
6.2.1 Determining Spending Behaviour of the British Tourist Market to the Shannon Region

The following analysis aims to detect the factors that significantly affect the level of spending when the entire generic sample is taken into consideration.

6.2.1.1 Hypotheses

Keeping in mind the results reported in the literature, the following hypotheses can be formulated and tested on the data provided by the current diary survey:

1. Hypotheses related to daily per person expenditure:
   - H1: Income has a positive effect on the expenditure: the higher the income the higher the spending during the trip;
   - H2: There is no relationship between gender and the level of expenditure;
   - H3: the expenditure increases with age;
   - H4: Purpose of visit has a significant impact on the level of expenditure (Business tourists are expected to spend significantly more than the other cohorts);
   - H5: Travelling with companions increases spending;
   - H6: Tourists staying in hotels spend significantly more;
   - H7: Length of stay has a negative effect on spending per person per day;
   - H8: The presence of children in the travel party has a significant negative impact, and
   - H9: Renting a car is associated with higher spending.

6.2.1.2 The Model

An overnight visit to a given vacation destination is considered to be a normal good (Agarwal and Yochum, 1999). Therefore, it is expected that the level of spending on tourism products and services to be income elastic: an increase in income leading to a proportionately bigger increase in spending. The evidence from tourism literature underlines that in addition to income, there are other factors that influence the level of spending, e.g. length of stay, travel party size, children in party, type of accommodation. Hence, it can be suggested that expenditure is a function of different socio-economic and trip-related characteristics. The relationship between demographic and trip related characteristics and holidaymakers' spending patterns was analyzed by
employing the multiple regression procedure based on the ordinary least squares method (OSL). The model is specified by the following formula:

\[
\text{Daily\_person\_exp} = f(\text{socio-demographic characteristics, trip-related characteristics})
\]

(1)

There were three socio-demographic characteristics included in the model, namely annual income, age and gender, and seven trip-related characteristics, namely the purpose of visit, the number of adults in party, the presence of children in party, length of stay, type of accommodation, total party size and car hire service. Because the independent variables were non-metric, dummy variables were created for purpose of visit, gender, type of accommodation, children in party and car hire.

Replacing the socio-demographic and trip-related characteristics equation (1) becomes:

\[
\text{Daily\_person\_exp} = f(\text{Income, Age, Male, Purpose of visit, No adults, Children, Length\_of\_stay, BB\_accomm, Selfcatering\_accomm, Other\_accomm, FR\_accomm, party\_size, car hire})
\]

(2)

\[
\text{OR}
\]

\[
\text{Daily\_Person\_Exp} = \beta_0 + \beta_1 \times \text{Income} + \beta_2 \times \text{Age} + \beta_3 \times \text{Male} + \beta_4 \times \text{Children} + \beta_5 \times \text{Dummy\_Business} + \beta_6 \times \text{Dummy\_Holidaymakers} + \beta_7 \times \text{Dummy\_Otherpurpose} + \beta_8 \times \text{No\_Adults} + \beta_9 \times \text{BB\_Accomm} + \beta_{10} \times \text{Selfcatering\_Accomm} + \beta_{11} \times \text{Other\_Accomm} + \beta_{12} \times \text{FR\_Accomm} + \beta_{13} \times \text{Length\_of\_Stay} + \beta_{14} \times \text{Party\_Size} + \beta_{15} \times \text{Car hire} + \varepsilon
\]

Where:

(3)

\[
\beta_0 = \text{Intercept};
\]

\[
\beta_1...\beta_{12} = \text{Regression Coefficients};
\]

\[
\text{Daily\_Person\_Exp} = \text{Expenditure per person per day computed by dividing the total expenditure by length of stay and number of persons covered by the diary};
\]

\[
\text{Income} = \text{Annual income of chief earner};
\]

\[
\text{Age} = \text{age of respondent};
\]

\[
\text{Male} = \text{Dummy variable equal to 1 if respondent is a man};
\]

\[
\text{Children} = \text{Dummy variable equal to 1 if children are part of the travel party};
\]
Dummy_Business = Dummy variable equal 1 if purpose of visit is business, 0 otherwise;
Dummy_Holidaymakers = Dummy variable equal 1 if purpose of visit is holiday, 0 otherwise;
Dummy_Otherpurpose= = Dummy variable equal 1 if purpose of visit is “Other”, 0 otherwise;
No_Adults = Number of adults in the travel party that are covered by the diary;
BB_Accomm = Dummy variable equal 1 if main accommodation was B&B;
Selfcatering_Accomm = Dummy variable equal 1 if main accommodation was self-catering units;
Other_Accomm = Dummy variable equal 1 if main accommodation was other type of accommodation establishment;
FR_Accomm = Dummy variable equal 1 if main accommodation was “staying with friends or relatives”
Length_of_Stay = Number of nights stayed;
Party_Ssize = Total number of persons in the travel party;
Carhire = Dummy variable equal 1 if travel party hired a car;
\( \varepsilon \) = The error.

From the three main types of multiple regression analysis (standard, hierarchical and stepwise), hierarchical regression has been chosen for the current analysis. As discussed in Chapter 5, hierarchical regression is used to evaluate the relationship between a set of independent variables and the dependent variable, controlling for the impact of a different set of independent variables on the dependent variable.

In hierarchical regression or sequential regression, the independent variables are entered into the equation in the order specified by the researcher based on theoretical grounds (Pallant, 2007). The two groups of explanatory variables have been entered in two different blocks; the first block contains the three socio-demographic characteristics of respondents and the second block contains the trip-related characteristics. This approach allows each independent variable to be assessed in terms of what it adds to the prediction of the dependent variable, after the previous variables have been controlled for. It also allows for the assessment of the ability of the overall model to predict the dependent variables as well as the relative contribution of each block of variables (Pallant, 2007).
Preliminary analyses have been conducted to ensure no violation of regression assumptions. Since the assumption checking procedures have been detailed in the methodology chapter, the following section will resume to interpret the regression results.

### 6.2.1.3 Regression Results

Income, gender, age, purpose of visit, number of adults, children in party, length of stay and type of accommodation were regressed on the expenditure per person per day for the years 1998 and 2006, to determine the spending behaviour of the British tourist market to the Shannon Region. Table 6.1 and Table 6.2 present the results of the regression model.

#### Table 6-1: Regression Results, Model 1998 versus 2006-2007

<table>
<thead>
<tr>
<th></th>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
<tr>
<td>1998</td>
<td>1</td>
<td>0.395a</td>
<td>0.156</td>
<td>0.148</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0.786b</td>
<td>0.617</td>
<td>0.593</td>
<td></td>
</tr>
<tr>
<td>2006-2007</td>
<td>1</td>
<td>0.342a</td>
<td>0.117</td>
<td>0.107</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0.770b</td>
<td>0.594</td>
<td>0.572</td>
<td></td>
</tr>
</tbody>
</table>

| a. Predictors: Income, Age, Gender |
| b. Predictors: Income, Age, Gender, Purpose of visit, Number of adults, Length of stay, Children in party, Type of accommodation, car hire |

The results of the two hierarchical regressions for 1998 and 2006 samples revealed similar results. The ability of the socio-demographic characteristics to predict the level of expenditure per person per day is pretty limited in both models, accounting for 15.6 and 11.7 per cent of the variation in spending. The inclusion of trip-related characteristics significantly improved the overall explanatory power to almost 60 per cent in both models. The value of *R Square Change* indicates that trip-related characteristics explain an additional 46 and 47 per cent, respectively, of the variance in expenditure even when the effects of socio-demographic characteristics are statistically controlled for. This is a statistically significant contribution, as shown by the *Sig. F Change* value of 0.000.

The results of the ANOVA output indicate that the models, which explain almost 60 per cent per cent of the variance in expenditure, are significant (*F*<sub>1998</sub> [13,204] = 25.286, *p* <
Chapter 6

An Analysis of the Determinants of Tourist Expenditure

0.001; $F_{2006} [14,268] = 27.961, p < 0.001)$. The adjusted $R$-Square statistics indicates very good explanatory power, the percentage of variation in expenditure explained being much higher than in previous studies. In studies by Fish and Waggle (1996), Cannon and Ford (2002) and Chhabra (2006) the R-square statistics were less than 10 per cent for the former two studies and 27 and 15 per cent for the models presented in the later research.

The better explanatory power of the trip-related characteristics is supported by other findings in the tourism literature. Studies by Hsieh et al (1997), Jang et al (2003) and Wang et al (2006) emphasise that trip characteristics contribute to an explanation of expenditure more so than socio-demographic variables.

The contribution of each independent variable to the final equation is reflected by the regression coefficients summarized in Table 6.2.

Table 6-2: Regression Coefficients, Model 1998 versus 2006-2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parameter</td>
<td>T value</td>
<td>Parameter</td>
<td>T values</td>
</tr>
<tr>
<td>Dummy_Male</td>
<td>0.513</td>
<td>1.768</td>
<td>0.111</td>
<td>0.393</td>
</tr>
<tr>
<td>Age</td>
<td>0.084</td>
<td>0.750</td>
<td>0.159</td>
<td>1.488</td>
</tr>
<tr>
<td>Income</td>
<td>----------- 54</td>
<td>----</td>
<td>0.647</td>
<td>2.897***</td>
</tr>
<tr>
<td>Dummy_Business</td>
<td>1.032</td>
<td>2.004*</td>
<td>1.493</td>
<td>2.600**</td>
</tr>
<tr>
<td>Dummy_Holiday</td>
<td>0.395</td>
<td>0.911</td>
<td>0.342</td>
<td>0.749</td>
</tr>
<tr>
<td>Dummy_Other-purpose</td>
<td>1.172</td>
<td>2.196*</td>
<td>-0.208</td>
<td>-0.371</td>
</tr>
<tr>
<td>No. adults</td>
<td>-0.259</td>
<td>-2.141*</td>
<td>-1.067</td>
<td>-3.927***</td>
</tr>
<tr>
<td>Children in party</td>
<td>-1.027</td>
<td>-2.066*</td>
<td>-2.208</td>
<td>-4.884***</td>
</tr>
<tr>
<td>Dummy_B&amp;B</td>
<td>-1.993</td>
<td>-4.699***</td>
<td>-0.478</td>
<td>-1.208</td>
</tr>
<tr>
<td>Dummy_Self-catering</td>
<td>-3.154</td>
<td>-2.594**</td>
<td>-0.853</td>
<td>-1.420</td>
</tr>
<tr>
<td>Dummy-Other type accomm.</td>
<td>-3.446</td>
<td>-5.052***</td>
<td>-1.640</td>
<td>-1.999*</td>
</tr>
<tr>
<td>Dummy-FR</td>
<td>-3.024</td>
<td>-6.185***</td>
<td>-3.131</td>
<td>-4.684***</td>
</tr>
<tr>
<td>Length of stay</td>
<td>-0.239</td>
<td>-4.200***</td>
<td>-0.175</td>
<td>-2.751**</td>
</tr>
<tr>
<td>Car-hire</td>
<td>-1.956</td>
<td>-5.809***</td>
<td>-1.438</td>
<td>-4.942***</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01, ***p < 0.001

Table 2 provides a comparison of the regression results for expenditure per person per day for the two samples collected in 1998 and 2006, respectively. For socio-demographic variables, annual income has been found to be statistically significant at

54 There has been no data regarding the annual income in the survey conducted in 1998

152
the 0.01 level for the 2006 model, while no factor has been found to significantly affect the level of spending for the 1998 model. The sign of the coefficient indicates a positive relationship between income and daily per person expenditure. Tourists in the higher income bracket have a tendency to incur more expenses during their stay.

This finding leads to the acceptance of H1: “Income has a positive effect on the expenditure: the higher the income the higher the spending during the trip” and it is consistent with several previous studies (Dardis et al., 1981; Cai et al., 1995; Fish and Waggle, 1996; Argawal and Yochum, 1999; Jang et al., 2004; Nicolau and Mas, 2005; Wang et al., 2006).

No significant differences were detected among the gender and age for both the years. These results lead to the acceptance of H2: “There is no relationship between gender and the level of expenditure” and has strong support in the tourism literature, most of the studies reporting no relationship between gender and amount of spending. Regarding age the results from the literature are mixed, some studies reporting a positive or negative effect while others indicating a non-linear relationship. The rejection of H3 “Spending increases with age” is in line with the findings of Cai et al (1995) and Nicolau and Mas (2005). In addition, an examination of the graphical representation of expenditure by age indicates a reverse U-shape and this finding corroborates again with the evidence from the literature (Dardis et al., 1981; Nicolau and Mas, 2005).

Results of the regression analysis reveal that most trip-related characteristics have a significant effect on the level of spending for both investigated years. The purpose of visit appears to be a significant factor affecting expenditure, with business tourists spending significantly more as indicated by the sign and value of the regression parameter and the significance associated. It is worth noting that travelling for “other reasons” has the opposite effect in the two models analysed. For the 1998 model it appears to have a significant positive impact while for the 2006 model the results indicate a negative effect although not significant.

The results are in line with the findings of Suh and Gartner (2004) who concluded that the relationship between expenditure and trip purpose showed significant differences between business and pleasure tourists, regardless the place of origin (Europe, North
America and Japan). The significantly higher expenditure of business tourists compared with VFR cohorts corroborates the findings of Jang et al (2003) who identified that Chinese business travellers to the US spend significantly more than their VFR counterparts, primarily because of the use of lodging facilities. The results of this analysis further support H1, i.e. purpose of visit has a significant effect on the level of expenditure, with business tourists being by far the highest spenders.

The number of adults appears to have a negative effect upon spending for both studied years. It appears that the more adults in a travel party, the lower the level of daily per person expenditure. As a consequence the hypothesis H5: “H5: Travelling with companions increases spending” is rejected. It is also supported by previous findings reported by Dardis et al. (1994) and Wang et al. (2006).

It emerges from the results that expenditure per person per day differs for parties with children in both models. The regression coefficient indicates that the presence of children in the travel party significantly reduces the expenditure. This result has strong support in the tourism literature with most of the studies revealing the negative effect of children on the level of spending (Cai et al., 1995; Cai, 1999; Hsieh et al., 1997; Agarwal and Yochum, 1999; Cannon and Ford, 2002). Agarwal and Yochum (1999) argue that because children do not usually have their own income, an increase in the number of children in the travel party is expected to lead to lower expenditure.

For type of accommodation the two models revealed slightly different results. The negative and significant parameter for the dummy variable reflecting “staying with friends or relatives” for 2006 indicates a lower spending associated with tourists who were accommodated in the premises of their friends or relatives. No significant difference has been noted between the expenditure of tourists staying in hotels or B&Bs or self-catering units. These results invalidate hypothesis H6: Tourists staying in hotels spend significantly more. However, the results for the 1998 study revealed a significant difference between expenditure associated with tourists staying in hotels and those using other types of accommodation establishments. It emerged that tourists staying in hotels spend significantly more. The effect of accommodation type on tourist expenditure has hardly been studied in the past (Nicolau and Mas, 2005). However, in a study investigating the racial differences in the spending patterns of tourists visiting
Virginia Beach, Agarwal and Yochum (1999) concluded that the type of accommodation used is a significant influential factor, with parties staying in hotels spending the most and those staying with friends and relatives spending the least. Nicolau and Mas (2005) also tested the hypothesis of hotel lodging being associated with higher expenditure in a study investigating the expenditure of tourists visiting Spain. The results of the analysis have led to the rejection of the hypothesis as tourists staying in rented apartments have been found to be the highest spenders.

Evidence collected by tourism research shows that the duration of stay at the destination is among the most powerful influential factors for tourist expenditure. Most of the studies revealed a negative relationship between length of stay and expenditure per person per day, the longer the stay the lower the level of spending (Mak et al, 1977; Cannon and Ford, 2002, Nicolau and Mas, 2005). The current study aligns to previous findings showing a negative effect of duration of stay upon tourist spending for both models (1998 and 2006). The negative and significant parameter indicates that tourists staying for a short time show a higher propensity to incur expenditure, while parties staying for a longer period spend significantly less on a daily basis. This result leads to acceptance of the hypothesis *H7: Length of stay has a negative effect on spending per person per day.*

The effect of renting a car on spending has not been previously analysed. The inclusion of this variable in the regression analysis proved to increase the explanatory power of the model considerably. The results revealed that tourists renting a car spend significantly more than tourists using public transport. As a consequence the hypothesis *H9: Renting a car is associated with higher spending* is validated.

### 6.2.1.4 Summary

The previous section focused on investigating the impact of socio-demographic characteristics and trip-related characteristics on daily per person expenditure for samples collected in 1998 and 2006. Hierarchical multiple regression was performed to assess the relationship between the expenditure and the selected explanatory variables and the results corroborate previous findings from the tourism research and have added some new results.
The comparison between 1998 and 2006 indicated noteworthy results. The ability of socio-demographic characteristics to explain the variation in spending was low for both years. Among socio-demographic variables, annual income proved to be a significant factor affecting the level of spending for 2006\(^5\). The result indicated a positive relationship, tourists with higher income showing a higher propensity to incur expenditure. Similar to previous research in the area of tourist expenditure, the current study revealed that trip-related characteristics contribute to an explanation of expenditure behaviour more so than socio-demographic characteristics. Expenditure per person per day appeared to differ according to purpose of visit. The results profiled the business tourists as the highest spenders. The number of adults as well as the presence of children in the travel party were found to have a significant negative impact on expenditure. The assessment of the impact of type of accommodation revealed different results for the two samples analysed: tourists staying in hotels in 1998 were associated with higher expenditure while for 2006 the results revealed no difference between the expenditure of tourists staying in hotels or B&Bs or self-catering units\(^6\). However, a difference has been noted for tourists staying with their friends or relatives, their spending being significantly lower. The duration of stay has been found to be another significant factor negatively affecting expenditure per capita per day: the longer the length of stay the lower the expenditure. Finally, renting a car was associated with higher expenditure.

6.2.2 An Analysis of The Expenditure Patterns of The VFR British Market to The Shannon Region

The following section aims to investigate the expenditure pattern of the VFR market by analyzing the most influential factors affecting the level of spending. The section is organized as follows: first a background section will provide some insights on the importance of this segment and its omission in the literature; second a profile of the typical VFR tourist will be provided followed by the analysis of the expenditure determinants and finally it will conclude with a summary of the main findings.

\(^5\) The impact of income on the expenditure from 1998 survey has not been assessed due to the availability of data.

\(^6\) One explanation might be the significantly lower prices for hotels room in 2006 compared to 1998
6.2.2.1 Background

Academic research on VFR tourism does not have a long history. Until the late 1980s this segment was one of the most neglected and under-researched categories in the tourism analysis. Seaton and Palmer (1997) underline the three main assumptions behind this historical lack of interest in analyzing this cohort.

1) The assumptions that VFR tourism is not as valuable as other cohorts for tourism planers;
2) it cannot be stimulated by tourism planners because it is not sensitive to the influence of tourism marketing efforts; and
3) even if it could be stimulated no special programs would be needed since it would be influenced by the same marketing efforts as those promoting the mainstream recreational tourism.

However, increasingly researchers are questioning the validity of these assumptions and include VFR tourism in their analysis. In 1995, a special issue of the Journal of Tourism studies was devoted to the VFR market with the aim of stimulating the interest of tourism researchers to include this tourism cohort in their work. All of the five studies published in the special issue found that VFRs represented a major part of travel market and that they had a significant economic impact on the host communities. The authors stressed the need for developing more tailor-made marketing programmes for VFRs and their hosts (Morrison et all, 2000). Seaton and Palmer (1997) pointed out that the increasing interest of researchers in VFR tourism in the late 1990s was due to the recognition that this category is growing world wide for many social and political reasons; that in some destinations it is the principal tourism market and that the economic contribution might not be as insignificant as originally thought. VFR tourism has a significant impact on national tourism in some developing countries like India where 35 per cent of all domestic travel is related to VFR. A growing impact is also registered in many countries on the Pacific Rim where most of Asian immigration is concentrated and additionally in Alberta, Canada the number of tourists visiting their friends or relatives surpasses the number of holidaymakers (Lee et al, 2005).
According to Lehto et al (2001), some research studies have proceeded beyond recognizing VFRs as a unique market, identifying variations within the VFR market and suggesting different typologies, differences in travel behaviour and distinct VFR market niches. However, these studies are still at a preliminary stage and are limited to analyzing domestic travel markets in the United Kingdom and Australia. Referring to the work of Seaton and Palmer (1997) and Moscardo et al (2000), the authors stressed the need for more replication, expansion and refinements of these studies for further conceptualization and generalization.

Evidence from the tourism research suggests the traditional assumption, that VFRs do not differ from other travellers, is not accurate. Studies like Seaton and Tagg (1995), Morrison et al (1995); Chen and O’Leary (1998) and Moscardo et al (2000) found that tourists visiting friends or relatives have distinct behavioural patterns. These findings challenge the traditional assumption of homogeneity of this segment of the tourism market.

According to Lehto et al (2001), the VFR market has characteristics that make it of unique value for tourism marketeers, since it can function as a moderator to compensate for seasonal variations. In a study profiling the VFR tourism in the UK, Seaton and Palmer (1997) observed that VFR tourism is more evenly distributed throughout the year with peaks in months of traditionally low general tourism volume (Lehto et al, 2001).

Although there were many reasons for the traditional marginalization of the VFR market-segment, it was the assumption of a low economic value that made it less appealing to tourism marketeers. However, Seaton and Palmer (1997) showed that while there is a general agreement regarding the low level of spending of the VFR tourists, a more detailed comparative analysis indicated that this market should not be ignored. They argued that the main reasons for the low overall VFR expenditure is the absence of package trip costs and insignificant lodging expenditure. A comparison between the level of expenditure for other spending categories like shopping and entertainment revealed that the difference between VFR and general tourism is not as significant as expected.
On the international level, an analysis of Paci (1994) showed that contrary to the common belief, VFR travellers made a substantial contribution to local economies, particularly to restaurants, national airlines, tourism attractions and other tourism related activities. In a study exploring the role of the VFR sector in the international travel market, Yuan et al (1995) discovered that Dutch VFRs represented a sizable segment of the inbound travel market in the US and Canada with an important economic contribution. Similar results regarding the importance of the VFR market-segment have been revealed by the study of Navarro and Turco (1994) who found that VFR also used commercial accommodation and restaurants and participated in cultural events, contributing positively to the local economy.

In a study using the data from Queensland, Australia, Moscardo et al (2000) confirmed that VFR travellers have a significant economic impact on commercial tourism operations. In addition, the authors observed that 19 per cent of the VFR tourists stayed at least one night in a commercial accommodation establishment, hence challenging the assumption that this category of tourists does not use paid-accommodation.

An analysis of the international VFR travellers to the US conducted by Lehto et al (2001) also revealed that VFRs made substantial use of commercial accommodation and had significant expenditure on food and drinks, transportation, gifts and souvenirs and entertainment.

Using a large-scale survey among French tourists who visited 17 different destination countries, Lee et al (2005) re-evaluated the financial value of the VFR market and analyzed the composition of this market-segment. The authors suggested that even though the expenditure of the VFRs is far lower than that of other types of visitors, a conclusion that VFR overseas tourism is marginal from a financial point of view is considerably premature. Although the majority of the VFRs spent significantly less than the mainstream leisure tourists, a significant 38 per cent was found to be a very lucrative market, outspending by far general leisure tourists.

The overall aim of the following analysis is to provide a more in-depth understanding of the VFR tourists to the Shannon Region. First a profile of the VFR tourists will be outlined, followed by a detailed analysis of the spending behaviour of this cohort.
6.2.2.2 VFR’s Profile

The following section will describe the profile of the VFR British market to the Shannon Region. First the socio-demographic profile will be discussed, followed by a summary of the trip related characteristics and the expenditure profile.

Table 6.3 presents the socio-demographic profile of British tourists visiting their friends or relatives, according to data collected via the diary questionnaire at Shannon Airport.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>72</td>
<td>34.3</td>
</tr>
<tr>
<td>Female</td>
<td>138</td>
<td>65.7</td>
</tr>
<tr>
<td>Age a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 25 years</td>
<td>36</td>
<td>17.1</td>
</tr>
<tr>
<td>25 – 34 years</td>
<td>41</td>
<td>19.5</td>
</tr>
<tr>
<td>35 – 44 years</td>
<td>41</td>
<td>19.5</td>
</tr>
<tr>
<td>45 – 54 years</td>
<td>33</td>
<td>15.7</td>
</tr>
<tr>
<td>55 – 64 years</td>
<td>37</td>
<td>17.6</td>
</tr>
<tr>
<td>&gt; 65 years</td>
<td>22</td>
<td>10.5</td>
</tr>
<tr>
<td>Annual Income b,c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 15,000</td>
<td>20</td>
<td>17.1</td>
</tr>
<tr>
<td>15,001 – 25,000</td>
<td>17</td>
<td>14.5</td>
</tr>
<tr>
<td>25,001 – 35,000</td>
<td>33</td>
<td>28.2</td>
</tr>
<tr>
<td>35,001 – 45,000</td>
<td>13</td>
<td>11.1</td>
</tr>
<tr>
<td>45,001 – 55,000</td>
<td>11</td>
<td>9.4</td>
</tr>
<tr>
<td>55,001 – 65,000</td>
<td>6</td>
<td>5.1</td>
</tr>
<tr>
<td>&gt; 65,000</td>
<td>13</td>
<td>11.1</td>
</tr>
</tbody>
</table>

a Figures represent the entire VFR sample  
b Figures represent the annual income of chief earner in the family  
c Four parties did not provide the annual income, representing 3.4 per cent of the respondents

According to the figures summarized in Table 6.3, a VFR tourist is more likely to be a female (in almost 66 per cent of the cases), be younger than 65 years, with a higher probability to be between 25 and 45 years old and earn between 25,000 and 35,000 GBP. It is noteworthy that almost one third of the respondents reported an annual income under 25,000 GBP from which 17 per cent earn less than 15,000 GBP. Female tourists appear to dominate the VFR British market to the Shannon Region.

A similar proportion between female and male VFR tourists has been revealed in the study of Lee et al. (2005) in their analysis of French VFR outbound market. The same study reported that 55 per cent of the tourists visiting their friend or relatives were aged
between 30 and 44 years which compares to the 40 per cent of the tourists aged between 25 and 45 years in the current study.

VFR tourists appear to have some particularities when compared with other types of tourists. Apart from the evident dominance of female which account for 66 per cent of the VFR cohort (this compares to only 47 per cent for other tourists cohorts), VFR visitors tend to be younger (almost 60 per cent of VFRs aged under 45 years vs. 40 per cent of other tourists) and earn slightly less (60 per cent of VFR earn less than 35,000 GBP vs. 52 per cent of other tourists earning less than 35,000 GBP). Table 6.4 presents the trip-related profile of British tourists visiting their friends or relatives, according to data collected via the diary questionnaire.

**Table 6.4: VFR's Trip-related Profile**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Travel Party</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travelling Alone</td>
<td>40</td>
<td>34.2</td>
</tr>
<tr>
<td>Couple</td>
<td>29</td>
<td>24.8</td>
</tr>
<tr>
<td>Travelling with family</td>
<td>30</td>
<td>25.6</td>
</tr>
<tr>
<td>Other adult party</td>
<td>18</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>Length of Stay</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 3 Nights</td>
<td>42</td>
<td>35.9</td>
</tr>
<tr>
<td>4 - 6 Nights</td>
<td>53</td>
<td>45.3</td>
</tr>
<tr>
<td>7 - 9 Nights</td>
<td>18</td>
<td>15.4</td>
</tr>
<tr>
<td>&gt; 9 Nights</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>Type of Accommodation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel</td>
<td>6</td>
<td>5.1</td>
</tr>
<tr>
<td>B&amp;B</td>
<td>11</td>
<td>9.4</td>
</tr>
<tr>
<td>Self-Catering</td>
<td>3</td>
<td>2.6</td>
</tr>
<tr>
<td>Friends and Relatives</td>
<td>97</td>
<td>82.9</td>
</tr>
<tr>
<td><strong>Children in Party</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>98</td>
<td>83.8</td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>16.2</td>
</tr>
<tr>
<td><strong>Perceived value for money</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Good</td>
<td>14</td>
<td>14.1</td>
</tr>
<tr>
<td>Good</td>
<td>35</td>
<td>35.4</td>
</tr>
<tr>
<td>Fair</td>
<td>37</td>
<td>37.4</td>
</tr>
<tr>
<td>Poor</td>
<td>13</td>
<td>13.1</td>
</tr>
<tr>
<td><strong>Level of Satisfaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completely satisfied</td>
<td>43</td>
<td>43.4</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>45</td>
<td>45.5</td>
</tr>
<tr>
<td>Fairly Satisfied</td>
<td>11</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Data provided in Table 6.4 profiles a VFR as more likely to be an individual traveller (34.2 per cent), who stays for 4 to 6 nights at the destination and stays with his/her
friends and relatives. Most of the VFR tourists perceive the value for money in Ireland as being good or fair and they appear to be completely or very satisfied with their visit.

In contrast to tourists visiting the Shannon Region for other purposes, tourists visiting their friends or relatives show distinctive travel-related characteristics. While VFR tourists prefer to travel alone, stay for 4-6 nights and stay with their relatives, other tourists are more likely to travel with a companion, stay mostly for 1 to 3 nights and use a hotel for accommodation.

Table 6.5 presents the spending profile of British tourists visiting their friends or relatives, according to data collected via the diary questionnaire.

Table 6.5: VFR's Expenditure Profile

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Total expenditure</th>
<th>Per capita per diem expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VFR</td>
<td>Non-VFR</td>
</tr>
<tr>
<td>Accommodation</td>
<td>66.82</td>
<td>321.45</td>
</tr>
<tr>
<td>Shopping</td>
<td>114.01</td>
<td>78.95</td>
</tr>
<tr>
<td>Food and Drinks</td>
<td>176.41</td>
<td>269.27</td>
</tr>
<tr>
<td>Transport</td>
<td>97.83</td>
<td>165.66</td>
</tr>
<tr>
<td>Sightseeing</td>
<td>13.64</td>
<td>24.48</td>
</tr>
<tr>
<td>Total</td>
<td>468.69</td>
<td>859.93</td>
</tr>
</tbody>
</table>

Source: Primary Research

Table 6.5 summarises the expenditure of VFR tourists on different categories. These values are also put in contrast with the spending of other Non-VFR tourists. The figures indicate that VFR expenditure is about half the expenditure incurred by the Non-VFR tourists. The major category that boosts the expenditure of Non-VFR tourists is accommodation. When this expense is excluded from the total spending, the average trip expenditure of non-VFRs is still 34 per cent higher and the expenditure per capita per diem is 30 per cent higher than the expenditure of tourists visiting their friends or relatives. Notwithstanding the foregoing the VFR segment is still an important part of the tourist marketplace for many regions.

This section illustrated the socio-demographic and trip-related profile of the British VFR market for the Shannon Region. The expenditure has been also assessed and put
into contrast with the expenditure of the Non-VFR tourists. The results suggest that VFR tourists have some particularities that distinguish them from other types of tourists and that their expenditure is not as insignificant as previously assumed. In addition, the VFR cohort is not seasonal, is not too hard to promote to and not as subject to downturns. The distinctive profile of VFR tourists both in terms of socio-demographic and trip-related characteristics as well as in terms of expenditure structure motivates the analysis of this cohort independent from other cohorts. The following section focuses in the investigation of the main determinants of the VFRs’ expenditure. Hierarchical regression has been employed to complete the analysis.

6.2.2.3 Analysis of The Determinants of VFRs’ Spending

According to Lehto et al. (2001), the traditional and marginal interest in the visiting friends and relatives market has been replaced by a recent expansion of research about these tourists. Same authors underlined the three distinct groups of studies: 1) studies analysing the relative magnitude of the VFR market; 2) marketing and economic contributions of VFRs; and 3) studies analysing the heterogeneity of this market. Despite the upsurge of research in this area, there are no studies analysing the determinants of the expenditure occurred by those tourists visiting their friends and relatives. The current section aims to fill this gap and contribute to a better understanding of the spending patterns of this understudied market-segment by analysing the main drivers of expenditure.

The Model

The relationship between demographic and trip related characteristics and VFRs spending patterns was analyzed by employing the multiple regression procedure based on the ordinary least squares method (OSL). The model is specified by the following formula:

\[
\text{Daily\_person\_exp} = f(\text{socio-demographic characteristics, trip-related characteristics})
\]

There were three socio demographic characteristics included in the model, namely annual income, age and gender and six trip-related characteristics, namely the number of adults in a party, the presence of children in a party, length of stay, type of accommodation, total party size and car hire service. Because some of the independent
variables were non-metric, dummy variables were created for gender, type of accommodation, children in a party and car hire.

Preliminary analyses have been conducted in order to ensure no violation of the regression assumptions. Since one of the assumptions, the normality of the dependent variable, has not been met, a square root transformation has been applied. The main results of the analysis are presented in the following sub-section.

**Regression Results**

The results of the analysis are summarized in Tables 6.6 and 6.7. Table 6.6 shows the overall explanatory power of the model as well as the unique contribution of both the socio-demographic and trip-related characteristics in explaining variation in the level of spending. Table 7 presents the regression coefficients indicating the individual contribution of each explanatory variable included in the analysis as well as the statistical significance associated with each coefficient.

**Table 6-6: VFR Sample: Regression Results - Explanatory Power**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Change Statistics</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
<td>F Change</td>
</tr>
<tr>
<td>1</td>
<td>0.210&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.044</td>
<td>0.017</td>
<td>0.044</td>
<td>1.641</td>
</tr>
<tr>
<td>2</td>
<td>0.628&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.394</td>
<td>0.327</td>
<td>0.350</td>
<td>7.163</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: Income, Age, Gender  
<sup>b</sup> Predictors: Income, Age, Gender, Number of adults, Length of stay, Children in party, Type of accommodation, car hire

The value of R Square for the first model comprising only the socio-demographic characteristics (income, gender and age) indicates a very low explanatory power. Only one per cent of the variation in expenditure per person per day can be attributed to socio-demographic factors. When trip-related characteristics are included in the analysis, the overall explanatory power increases to almost 33 per cent, indicating that trip related factors are better predictors of VFR spending. Although the overall explanatory power is lower than desired, this is a significant finding as indicated by the significant ANOVA results (F [11, 99] = 5.863, p < 0.001 and is considerably higher than previous studies analyzing the determinants of tourist expenditure.
### Table 6-7: BFR Sample: Regression Coefficients

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Parameter</th>
<th>T values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummy_Male</td>
<td>-0.356</td>
<td>-0.666</td>
</tr>
<tr>
<td>Age</td>
<td>0.017</td>
<td>0.096</td>
</tr>
<tr>
<td>Income</td>
<td>0.775</td>
<td>2.211**</td>
</tr>
<tr>
<td>No. adults</td>
<td>-0.846</td>
<td>-1.860*</td>
</tr>
<tr>
<td>Children in party</td>
<td>-1.681</td>
<td>-2.256**</td>
</tr>
<tr>
<td>Dummy_hotel</td>
<td>2.240</td>
<td>2.085**</td>
</tr>
<tr>
<td>Dummy_BB</td>
<td>2.340</td>
<td>2.187***</td>
</tr>
<tr>
<td>Dummy_Self-catering</td>
<td>1.595</td>
<td>1.012</td>
</tr>
<tr>
<td>Length of stay</td>
<td>-0.220</td>
<td>-2.208**</td>
</tr>
<tr>
<td>Car-hire</td>
<td>-1.785</td>
<td>-3.635***</td>
</tr>
<tr>
<td>No. of people in party</td>
<td>-0.436</td>
<td>-1.771*</td>
</tr>
</tbody>
</table>

*p < 0.1, **p < 0.05, ***p < 0.01

Among the socio-demographic characteristics, only income appears to be significant. The sign and significance of the coefficient indicate a positive relationship between income and the level of expenditure: the higher the income the higher the level of spending. The presence of children in the travel party, the type of accommodation, the length of stay and renting a car are found to be significant at the 0.05 level or better. However, the direction of the influence is mixed: a longer length of stay, the presence of children in a party as well as not renting a car significantly diminish the expenditure while staying in a hotel or a B&B significantly increase the level of spending. Although not significant at the 0.05 level, the number of adults in a party and the total party size approach significance. As expected, the bigger the party size or the more adults in a party, the lower the expenditure on a per capita per diem basis.

### 6.2.2.4 Summary

This section provided an expenditure analysis of the VFR market-segment of the tourism market in the Shannon Region. First, a review of literature related to the VFR market has been provided followed by an analysis of the socio-demographic, trip-related and expenditure profile of a tourist visiting friends or relatives. When this profile was put in contrast with other Non-VFR tourists, some particularities have been revealed which motivated a further investigation of this cohort. The analysis revealed that a typical VFR tourist to the Shannon Region is more likely to be a female aged...
between 25 and 45 years, with an annual income most probably between 25,000 and 35,000 GBP who prefers to travel alone and stay in the region for four to six nights.

As regards expenditure, VFR tourists appear to spend significantly less than other Non-VFR travellers. However, when accommodation expenses, which are the main boosters of the Non-VFR spending, are subtracted the difference is significantly lower. In addition, a closer look at the composition of the expenditure suggests that the assumption that VFR tourists generate insignificant value for the local economy compared with other tourist cohorts is misleading.

While of little interest for accommodation providers, the VFR tourists are important for other tourism retailers. The higher shopping expenditure of VFR tourists suggests that this cohort is more likely to consume goods that fall out of the range of specific tourist products. The level of VFR spending makes the common belief that this cohort is not economic as valuable, questionable. Hence a further analysis to investigate the determinants of the expenditure has been suggested.

The analysis in this section focused on examining the impact of the socio-demographic and trip-related characteristics on VFR expenditure. Hierarchical regression has been employed to complete the analysis. Three socio-demographic characteristics namely age, gender and income and six trip-related characteristics namely length of stay, total party size, type of accommodation, number of adults, the presence of children in party and car rental have been regressed on the expenditure per person per day.

The results revealed that although income is usually one of the most powerful predictors, the explanatory power of the socio-demographic characteristics for VFRs is relatively low accounting for as little as 1 per cent of the variation in expenditure. Trip-related characteristics proved to be better predictors of expenditure, their inclusion in the model increasing the overall explanatory power to almost 33 per cent. The determinant factors which were found to have a significant effect on the level of spending are income, type of accommodation, length of stay, the presence of children in a party and renting a car. The results indicate that higher spending levels are associated with higher income levels, with accommodation in hotels or B&Bs, with shorter durations of stay and with rental car service. Travelling with children significantly lowers the spending per person per diem. Although significant at only 0.1 level, the
party size and the number of adults in a party appear to negatively affect the level of expenditure with bigger travel parties and higher number of adults being associated with lower spending.

This study showed that although the level of spending of VFR tourists is generally lower, this cohort is still economically interesting due to the considerable spending on retail goods and on food and drinks.

6.2.3 An Analysis of The Expenditure Patterns of The Holiday-Maker Market to The Shannon Region

The following section aims to investigate the expenditure pattern of the British holidaymaker market to the Shannon Region by analyzing the most influential factors affecting the level of spending. The section is organized as follows: The background section will provide a review of the most relevant studies followed by a profile of the holiday-maker tourist and by the analysis of the expenditure determinants and finally it will conclude with a summary of the main findings.

6.2.3.1 Related Work

Before embarking on the review of the relevant literature and on the analysis of the holidaymakers visiting the Shannon Region, which is the object of the study for the following section, the definition of the terms addressed is deemed necessarily. According to the WTO’s broad definition, tourism comprises “the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes” (WTO, 1995, p.9). Leisure and business are the main purposes of travel, 62 per cent of international travel being for leisure and 18 per cent for business purpose (Mak, 2004). According to Mak (2004), tourism is pleasure travel and tourists are people who travel for personal pleasure. The author states that there are good reasons why one may want to reserve the term tourism to describe pleasure travel only, stressing that the factors that influence the travel decisions of pleasure versus business travellers are quite different (pleasure tourists travel for their own pleasure while business tourists travel for the benefit of their employer). Although from a supply point of view there are reasons for adopting an inclusive definition of tourism, hotels and other tourism services providers serving pleasure as well as business travellers, the author suggest that the two main groups of
tourists should be treated separately. In the context of the current research, a pleasure tourist is identified under the name of holidaymaker. A holidaymaker is considered to be the respondent who exclusively specified the reason for visiting the region under the study as being holiday and stayed for at least one night in the region.

Most of the tourism literature focusing on the analysis of holidaymakers is qualitative in nature. The majority of studies investigate the forces that drive the decision to go on vacation, try to identify the key factors that have significant effects on destination choice and try to understand those factors that influence the vacation behaviour. According to Du Plessis and Rousseau (1999) consumer behaviour is the study of why people buy the products they do and how they make these decisions. As the tourism industry becomes more and more competitive, successful marketing needs to be based on solid knowledge of consumer behaviour (Dimanche and Havitz, 1994). Although understanding the travel behaviour and motivation has major benefits, an understanding of expenditure patterns is vital to travel organizers and destination marketeers, as they are interested in attracting people who are willing to spend money and not only time in their premises. While there is an impressive body of literature documenting the motivation to travel or the choice of destination and vacation behaviour (Crompton, 1979; Pearce, 1988; Um and Crompton, 1990; Gilbert, 1991, Crompton and Ankomah, 1993, Gnoth, 1997; Goossens, 2000; Bargeman et al, 2002; just to name a few), little research has been conducted regarding the expenditure patterns of pleasure travellers.

An important share of tourism expenditure research has been motivated by the desire to compute the economic impact of tourism on the host country or community. However, with the continuous growth of international tourism and as a consequence tourist receipts, research interests have extended to those of spending behaviour (Soteriades and Arvanitis, 2006), investigating the factors affecting the level of expenditure. Although with limited empirical support (Wang et al, 2006), previous research has shown that demographic, socioeconomic and trip related characteristics are influential factors not only in predicting vacation choices (Sheldon and Mak, 1987) but also in understanding the spending patterns of travellers (Dardis et al, 1981, Agarwal and Yochum, 1999, Jang et al, 2003; Wang et al, 2006).
Chapter 6  An Analysis of the Determinants of Tourist Expenditure

The effects of socio-demographic and trip-related characteristics on holiday expenditure have received little attention in the academic literature (Cannon and Ford, 2002). Most of the previous studies that were constructed around visitor expenditure were macroeconomic in nature and were driven by the desire to model the economic impact of tourism to the local or national economies (Lawson and Thyne, 1998). The models based on macroeconomic data fail to include other factors likely to influence personal expenditure. It has been argued that the level of tourist spending can also be influenced by individual socio-economic and demographic characteristics (Greig and McQuaid, 2004). However, the continuous growth of international tourism and tourists’ receipts determined the extension of research interests to those of consumer behaviour (Soteriades and Arvanitis, 2006). The issue of tourist and trip-related characteristics affecting the level of leisure expenditure has been investigated in several studies. The results of these studies are summarized in the following table, underlining the market under study, the dependent variable used as well as the most significant predictors.

Table 6-8: Holidaymakers Sample: Summary of Main Results from Literature

<table>
<thead>
<tr>
<th>Authors</th>
<th>Market studied</th>
<th>Dependent variable</th>
<th>Predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Taylor D.T., R.R. Fletcher and T. Clabaugh (1993)</td>
<td>Summer visitors to north central Wyoming</td>
<td>Expenditure per person per day</td>
<td>Travel party, length of stay, income</td>
</tr>
<tr>
<td>3. Agarwal B. and G.R. Yochum (1999)</td>
<td>Overnight visitors to Virginia Beach, 1997</td>
<td>Expenditure per person per day, party exp. per day, total party exp.</td>
<td>Income, length of stay, children in travel party</td>
</tr>
<tr>
<td>4. Leones J., B. Colby and K. Crandall (1998)</td>
<td>Tourists to South-eastern Arizona</td>
<td>Expenditure per person per day</td>
<td>Length of stay, purpose of visit, distance travelled</td>
</tr>
<tr>
<td>8. Nicolau J.L. and F.J. Mas (2005)</td>
<td>Tourists visiting Spain</td>
<td>Total expenditure</td>
<td>Type of accommodation, income, age, length of stay, household size</td>
</tr>
<tr>
<td>9. Soteriades M.D. and S.E. Arvanitis (2006)</td>
<td>British and German tourists to Crete, Greece</td>
<td>Expenditure per trip per person</td>
<td>Party size, nationality,</td>
</tr>
</tbody>
</table>

Source: Literature review
The findings of previous research, summarized in Table 6.8, indicate that among the socio-demographic characteristics, income is most frequently found to be a significant influencing factor of the level of tourist spending (Taylor et al., 1993; Agarwal and Yochum, 1999; Cannon and Ford, 2002; Downward and Lumsdon, 2003; Nicolau and Mas, 2005). According to Fish and Waggle (1996), income is the basis of the decision to go on holiday and the higher-income families are expected to have higher holiday expenditure than their lower-income counterparts. Indeed, income has been found to have a positive influence on the level of spending in all previous studies, regardless of the dependent variable considered (total expenditure, per person per day expenditure).

Regarding the relationship between age and level of tourist spending, the results from the literature are mixed. While studies like Nicolau and Mas (2005) found a negative influence of age on expenditure, other studies revealed that age exerts a positive effect (Jang et al., 2003) or even more, age was often found to be insignificant in explaining the variation in level of expenditure (Taylor et al., 1993; Agarwal and Yochum, 1999). Although one might expect that the spending patterns of men and women may vary in significant ways, past studies have not found gender to be an influential factor on the level of holiday expenditure. Wang et al. (2006) argues that the results are not surprising since much of travel behaviour is a group activity and not individual in nature.

Evidence from academic literature indicates that trip-related characteristics are among the most significant predictors of tourism expenditure, often contributing to an explanation of expenditure more than socio-demographic characteristics (Hsieh et al., 1997 cited in Jang et al., 2003). Party size and length of stay have been found significant in almost all studies focused on investigating the determinants of holiday expenditure. The direction of the influence, positive or negative, was different according to the dependent variable under study. Party size and duration of stay were found to have a significant positive effect on the total expenditure (Spotts and Mahoney, 1991; Downward and Lumsdon, 2003; Nicolau and Mas, 2005) and a significant negative impact on the level of per person per day expenditure (Taylor et al., 1993; Agarwal and Yochum, 1999; Leones et al., 1998; Cannon and Ford, 2002). Having children in a travel party significantly decreased the spending (Agarwal and Yochum, 1999; Cannon and Ford, 2002). According to Agarwal and Yochum (1999), children are normally not income earners; as a consequence, an increase in the number of children in a given party is anticipated to lead to lower expenditure.
Research indicates that there is a lack of supporting empirical work in tourism spending behaviour (Soteriades and Arvanitis, 2006; Wang et al, 2006) The following section aims to provide some empirical evidence on the extent to which the socio-demographic characteristics of the holidaymaker and the trip related characteristics influence the level of spending during a holiday. The section is organized as follows: first a profile of the British pleasure traveller to the Shannon region is provided followed by an analysis of the factors that influence the level of spending while on holiday. The section will conclude with a summary of the marketing implications from the findings.

6.2.3.2 Hypotheses

The examination of the academic literature on the subject of travel expenditure leads to the formulation (definition) of the following hypothesis that the following analysis aims to test the validity for the current study:

1) Hypotheses related to daily per person expenditure:
   
   • **H1**: Income has a significant positive effect on the level of travel expenditure: the higher the income, the higher the expenditure;
   
   • **H2**: Age is a significant influential factor of tourists’ spending;
   
   • **H3**: Gender has no significant impact on the level of expenditure;
   
   • **H4**: Number of adults has a significant impact on spending;
   
   • **H5**: Children in party have a significant negative impact on spending;
   
   • **H6**: Length of stay has a significant negative impact on per diem expenditure;
   
   • **H7**: Hotel accommodation significantly increase the spending;

2) Hypothesis related to total expenditure per trip:

   • **H8**: Income has a significant positive effect on the level of total travel expenditure: the higher the income, the higher the expenditure;
   
   • **H9**: Age is a significant influential factor of tourists’ spending;
   
   • **H10**: Total expenditure is not influenced by gender;
   
   • **H11**: Number of adults has a significant positive impact on total expenditure;
   
   • **H12**: The presence of children in party significantly lowers the total expenditure;
   
   • **H13**: Length of stay has a significant positive effect: the longer the trip, the higher the expenditure and
   
   • **H14**: Type of accommodation is an influential factor with hotel significantly
increasing the total expenditure per trip.

The purpose of the following section is to test the validity of these hypotheses in the context of the holiday market to Shannon Region. Multiple regression has been applied to identify the determinants of the level of expenditure and the magnitude and sign (direction) of the influence.

### 6.2.3.3 Holidaymaker’s Profile

The following section will describe the profile of the holidaymaker market to the Shannon Region. First the socio-demographic profile will be discussed, followed by a summary of the trip related characteristics and the expenditure profile.

Table 6.9 provides the socio-demographic profile of a typical holidaymaker in Shannon region, according to the data collected via the diary-questionnaire.

**Table 6-9: Holidaymakers Sample: Socio-demographic Profile**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>113</td>
<td>50.4</td>
</tr>
<tr>
<td>Female</td>
<td>111</td>
<td>49.6</td>
</tr>
<tr>
<td>Age b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 25 years</td>
<td>24</td>
<td>10.7</td>
</tr>
<tr>
<td>25 – 34 years</td>
<td>27</td>
<td>12.1</td>
</tr>
<tr>
<td>35 – 44 years</td>
<td>33</td>
<td>14.7</td>
</tr>
<tr>
<td>45 – 54 years</td>
<td>63</td>
<td>28.1</td>
</tr>
<tr>
<td>55 – 64 years</td>
<td>53</td>
<td>23.7</td>
</tr>
<tr>
<td>&gt; 65 years</td>
<td>24</td>
<td>10.7</td>
</tr>
<tr>
<td>Annual Income c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 15,000</td>
<td>16</td>
<td>16.5</td>
</tr>
<tr>
<td>15,001 – 25,000</td>
<td>24</td>
<td>24.7</td>
</tr>
<tr>
<td>25,001 – 35,000</td>
<td>23</td>
<td>23.7</td>
</tr>
<tr>
<td>35,001 – 45,000</td>
<td>20</td>
<td>20.6</td>
</tr>
<tr>
<td>45,001 – 55,000</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>55,001 – 65,000</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>&gt; 65,000</td>
<td>4</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Source: Primary Research

a,b Refers to the entire sample (including all party members)

c refers to the income of chief earner in the family

The figures in Table 6.9 indicate an almost equal chance of a holidaymaker to be a male or a female, with an age more likely to be between 45-54 years and earning between 15,001 and 25,000 GBP per year. It is interesting to note that 87.7 per cent of the
respondents reported an annual income less than 45,000 GBP, with 15,001-25,000 bracket being the most frequent (24.7 per cent).

Table 6.10 describes the travel profile of a holidaymaker to the Shannon Region according to data collected via the diary questionnaire at Shannon Airport.

### Table 6-10: Holidaymakers Sample: Trip-related Profile

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Travel Party</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travelling Alone</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Couple</td>
<td>58</td>
<td>59.8</td>
</tr>
<tr>
<td>Travelling with family</td>
<td>16</td>
<td>16.5</td>
</tr>
<tr>
<td>Other adult party</td>
<td>20</td>
<td>20.6</td>
</tr>
<tr>
<td><strong>Length of Stay</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 3 Nights</td>
<td>31</td>
<td>31.9</td>
</tr>
<tr>
<td>4 - 6 Nights</td>
<td>36</td>
<td>37.1</td>
</tr>
<tr>
<td>7 – 9 Nights</td>
<td>25</td>
<td>25.8</td>
</tr>
<tr>
<td>&gt; 9 Nights</td>
<td>5</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Type of Accommodation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel</td>
<td>44</td>
<td>45.4</td>
</tr>
<tr>
<td>B&amp;B</td>
<td>40</td>
<td>41.2</td>
</tr>
<tr>
<td>Self-Catering</td>
<td>16</td>
<td>16.5</td>
</tr>
<tr>
<td>Friends and Relatives</td>
<td>9</td>
<td>9.3</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>11.3</td>
</tr>
<tr>
<td><strong>Children in Party</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>89</td>
<td>91.8</td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>Perceived value for money</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Good</td>
<td>7</td>
<td>8.4</td>
</tr>
<tr>
<td>Good</td>
<td>33</td>
<td>39.8</td>
</tr>
<tr>
<td>Fair</td>
<td>36</td>
<td>43.4</td>
</tr>
<tr>
<td>Poor</td>
<td>5</td>
<td>6.0</td>
</tr>
<tr>
<td>Very poor</td>
<td>2</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Level of Satisfaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completely satisfied</td>
<td>14</td>
<td>16.9</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>57</td>
<td>68.7</td>
</tr>
<tr>
<td>Fairly Satisfied</td>
<td>10</td>
<td>12.0</td>
</tr>
<tr>
<td>Not very satisfied</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Not at all satisfied</td>
<td>1</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Source: Primary research

A typical tourist visiting Shannon Region for holiday purpose travels in most of the cases with a partner, stays for 4 to 6 nights, uses hotels or B&Bs as the main accommodation establishment and generally prefers to travel without children in a party. Tourists perceive the value for money in Ireland being fair and are generally very satisfied with the trip. Although the most frequently reported travel party is “couple”
(59.8 per cent), a significant number of holidaymakers travelled with the family or in the companion of other adults accounting for 16.5 per cent and 20.6 per cent, respectively. The figures show that it is very unlikely for a tourist to travel alone for holiday purposes, the individual travellers accounting for as little as 3 per cent of the sample. Regarding the length of the trip, more than two thirds of the respondents (69 per cent) reported a less than one-week stay. However, a significant percentage of the holidaymakers stayed for 7 to 9 nights (26 per cent) while long stays are very atypical counting for only 5 per cent of the cases. Hotels and B&Bs are the most preferred accommodation establishments, 86 per cent of the holidaymakers being accommodated for at least one night in a hotel or B&B. Self catering units were mentioned in 16 per cent of the cases and they are more popular among tourists with a longer length of stay.

Table 6.11 presents the spending profile of British holidaymakers to the Shannon Region, according to the data collected via the diary survey.

**Table 6-11: Holidaymakers Sample: Expenditure Profile**

<table>
<thead>
<tr>
<th>Expenditure category</th>
<th>Expenditure per person per day</th>
<th>Total expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>€</td>
<td>%</td>
</tr>
<tr>
<td>Accommodation</td>
<td>38.30</td>
<td>36.0</td>
</tr>
<tr>
<td>Shopping</td>
<td>10.75</td>
<td>10.1</td>
</tr>
<tr>
<td>Food and Drinks</td>
<td>33.44</td>
<td>31.4</td>
</tr>
<tr>
<td>Transport</td>
<td>20.00</td>
<td>18.8</td>
</tr>
<tr>
<td>Sightseeing</td>
<td>3.88</td>
<td>3.7</td>
</tr>
<tr>
<td>Total</td>
<td>106.40</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Research

Table 6.11 shows the average expenditure incurred by the holidaymakers on different spending categories as well as the share of each expenditure category of the budget. Accommodation is the leading category, attracting 36 per cent of the daily budget, closely followed by food and drinks with 33 per cent. Transport and shopping expenses account for 19 per cent and 10 per cent, respectively, while sightseeing and entertainment attract as little as 4 per cent of the daily spending. The distribution of the budget among different spending categories is similar on both the total and per person per day basis. Accommodation is the spending category that attracts the biggest share of
the daily budget (36 per cent) and according to Jang et al (2003) this leading position is not surprising as lodging is a necessity on a trip. Almost 87 per cent of the holidaymakers stayed at least one night in a hotel or B&B, spending on average per night €111.87 and €82.32, respectively. A significant percentage of respondents (17 per cent) stayed for at least one night in a self-catering unit spending on average €76, while people staying in other forms of accommodation like hostel, caravans, camping or cabins spent as little as €40 on average per night. The average amount spent on accommodation per night for the entire sample of holidaymakers is €78.27, which translates to an average of €37.9 if per person per night spending is considered.

Food and drinks is the second highest spending category attracting 33 per cent of the daily budget. The average per person per day expenditure is €33.44. More than half of the money spent on food and drinks is allocated for dinner. Alcoholic drinks represent quite a significant share, attracting 19 per cent of the food and drinks bill. The third most popular category the holidaymakers spend money on is a mid day meal with 13 per cent of the budget, while all the other sub categories account for less than 5 per cent.

In contrast to other spending categories, which are a necessity during a holiday (lodging, food and drinks, transport), shopping is not really a compulsory expense. However, past research evidence shows that shopping is one of the most pervasive leisure activities engaged in by tourists, enjoying higher priority for some tourists than sightseeing, recreation or any other holiday activities (Choi et al, 1999; Sneeberger et al, 2003; Reisinger and Waryzack, 1996, cited in Yuksel, 2005). Lehto et al (2004) state that in many cases shopping can become one of the major motivations for going on a pleasure trip. Reviewing the literature published on the topic, the same authors noted that travellers tend to spend a significant amount of their holiday budget on shopping for gifts and souvenirs and other goods.

Although the Shannon Region is not known to be a shopping destination, an analysis of the shopping experience of British tourists will provide tourism marketeers with a better understanding of the way travellers spend their money. Shopping expenses rank only fourth on the hierarchy of spending categories that attract tourists’ money. This indicates that shopping is not a major motivation for British tourists to visit the region.
Eleven per cent of the respondents spent no money in all shopping expenditure sub-categories.

A more detailed analysis of the composition of the shopping expenditure revealed that the most popular shopping sub-categories in terms of frequency of purchase are groceries with 63 per cent of the respondents spending on average €57, followed by postcards, stamps and papers with 57 per cent of the holidaymakers spending on average per trip €8.46. In line with the previous research, which suggested that many tourists spend money on gifts and souvenirs, a significant percentage of the leisure travellers visiting the Shannon region (47 per cent) made a gift or souvenir purchase. As regards the level of spending, the clothing category attracts the highest amount of money.

Transport attracts a significant share of the daily budget, accounting for as much as 19 per cent of the budget. Expenditure incurred for hiring a car is the leading spending category both in terms of the amount spend and the frequency of using the service. Almost three quarters of the holidaymakers did rent a car and spent on average €201.98 per trip, or €263 if petrol is taken into consideration. Using the public transport network is not very popular among the holidaymakers visiting the Shannon Region, 22.7 per cent of the respondents using the train and only 13 per cent taking a bus ride. Although only 16 per cent of the sample used a taxi, the total expenditure for this service ranks third with an average of €49.39.

Goeldner and Ritchie (2006) assert that attractions are the reason for people to travel and without attractions drawing tourists to destinations there would be little need for all other tourism services like accommodation, transportation, food and others. The list of attractions is extensive including the opportunities for sightseeing, shopping, entertainment, gaming, culture and recreation. Although an important motivator for tourists to travel, the attraction frequently receives the smallest portion of the tourist’s expenditure (Goeldner and Ritchie, 2006). This fact is evident in the current study, the sightseeing and entertainment category attracting as little as 4 per cent of the daily per person spending.

The current sub-section focused on analyzing the socio-demographic and trip-related profile of a holidaymaker to the Shannon Region. An overview of the expenditure
composition has also been provided. The following two sub-sections aim to investigate the effects of socio-demographic and trip-related characteristics on leisure expenditure. The expenditure categories examined include the daily per person expenditure and total expenditure as well as the spending subcategories including accommodation, shopping, food and drinks, transport and entertainment. Multiple regression and non-parametric tests have been applied to investigate the relationships between expenditure and different socio-demographic and trip-related characteristics.

### 6.2.3.4 Analysis of The Determinants Of Expenditure Per Person Per Day and Total Expenditure

#### The Model

The analysis of the expenditure determinants has been conducted in a similar manner with the analyses presented in the previous sections. The hierarchical regression has been employed to complete the analysis. The impact of three socio-demographic (age, income and gender) and six trip-related characteristics (length of stay, type of accommodation, number of adults, children in party, car hire) on the level of expenditure has been assessed. Preliminary analyses have been conducted in order to ensure no violation of the regression assumptions. Since one of the requirements, namely the normality of the dependent variable has not been met in the case of total expenditure, a semi-logarithmic functional form has been adopted.

#### Model Assessment

The socio-demographic and trip related characteristics have been regressed on both the expenditure per person per day and total expenditure. The explanatory power of the two models is presented in Table 6.12 while the regression coefficients are summarized in Table 6.13.
### Table 6-12: Holidaymakers Sample: Regression Results - Explanatory Power

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sig. F Change</td>
</tr>
<tr>
<td>Exp. Per person per day</td>
<td>1</td>
<td>0.365a</td>
<td>0.133</td>
<td>0.133</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0.660b</td>
<td>0.435</td>
<td>0.302</td>
</tr>
<tr>
<td>Total exp.</td>
<td>1</td>
<td>0.474a</td>
<td>0.225</td>
<td>0.225</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0.866b</td>
<td>0.750</td>
<td>0.525</td>
</tr>
</tbody>
</table>

a. Predictors: Income, Age, Gender
b. Predictors: Income, Age, Gender, Number of adults, Length of stay, Children in party, Type of accommodation, car hire

The results of the multiple regression indicate that the socio-demographic characteristics of the respondents alone explain only 9.5 per cent of the variance in expenditure per person per day and 19 per cent of the variance in total expenditure. The inclusion of the trip-related characteristics significantly increased the explanatory power of both models explaining an additional 30 per cent and 53 per cent, respectively. The results of the ANOVA output indicate that both models explain 35 and 71 per cent, respectively, of the variance in and are significant (F[12,82]=5.262, p<0.001; F[12,82]=20.529, p<0.001). Although the overall power of socio-demographic and trip related characteristics in explaining the variance in expenditure per person per day is lower than desired (35 per cent), this result is significantly higher than in previous studies like Fish and Waggle (1996) and Cannon and Ford (2002) where the percentage of the variation explained was less than 10 per cent. The better explanatory power of the trip-related characteristics has support in tourism literature, studies like Hsieh et al (1997), Jang et al (2003) and Wang et al (2006) underlying that trip characteristics contribute to an explanation of expenditure more than socio-demographic variables.

As regards the total expenditure, the adjusted R Square statistic indicates a very good explanatory power. This finding is consistent with the results of Agarwal and Yochum (1999) who found that the socio-demographic and trip related characteristics explain 73 per cent of the variation in total party expenditure of tourists visiting Virginia Beach.
Chapter 6  
An Analysis of the Determinants of Tourist Expenditure

Table 6.13: Holidaymakers Sample: Regression Coefficients

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Exp. per person per day&lt;sup&gt;a)&lt;/sup&gt;</th>
<th>Total expenditure&lt;sup&gt;b)&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parameter</td>
<td>T value</td>
</tr>
<tr>
<td>Dummy_Male</td>
<td>4.885</td>
<td>0.679</td>
</tr>
<tr>
<td>Age</td>
<td>8.192</td>
<td>2.972***</td>
</tr>
<tr>
<td>Dummy_income_medium</td>
<td>11.250</td>
<td>1.154</td>
</tr>
<tr>
<td>Dummy_income_high</td>
<td>28.420</td>
<td>2.123**</td>
</tr>
<tr>
<td>No. adults</td>
<td>-21.869</td>
<td>-2.860***</td>
</tr>
<tr>
<td>Children in party</td>
<td>-35.200</td>
<td>-2.619**</td>
</tr>
<tr>
<td>Dummy_B&amp;B</td>
<td>-2.759</td>
<td>-0.340</td>
</tr>
<tr>
<td>Dummy_Self-catering</td>
<td>-1.868</td>
<td>-0.175</td>
</tr>
<tr>
<td>Dummy-Other type accomm.</td>
<td>-28.805</td>
<td>-1.915*</td>
</tr>
<tr>
<td>Dummy-FR</td>
<td>-41.408</td>
<td>-2.922***</td>
</tr>
<tr>
<td>Length of stay</td>
<td>-2.512</td>
<td>-1.725*</td>
</tr>
<tr>
<td>Car-hire</td>
<td>-14.274</td>
<td>-1.59</td>
</tr>
</tbody>
</table>

*<sup>p</sup><0.1; **<sup>p</sup><0.05; ***<sup>p</sup><0.01

<sup>a)</sup> Dependent variable: Expenditure per person per day
<sup>b)</sup> Dependent variable: Ln (Total Expenditure)

Table 6.13 presents the contribution of each independent variable to explaining the variation in the level of expenditure, which is reflected through the regression coefficients and their significance. The following paragraphs summarise the main finding related to the determinants of expenditure per person per day as well as total expenditure.

**Determinants of Expenditure Per Person Per Day**

The results indicate that four of the explanatory variables are statistically significant: age, income, the number of adults in a party, the presence of children in a party and the type of accommodation.

Expenditure per person per day appears to differ with the age of the respondents, as evidenced by the significance of the coefficients (p<0.01). The positive sign of the regression coefficient suggests that the older the tourists the higher the expenditure. This result leads to the acceptance of H2: “Age is a significant influential factor of tourists’ spending”. This finding is in line with the results of Jang et al (2003) who
found that age has a significant positive effect on the expenditure of Japanese pleasure tourists to the US.

As expected, income has a positive effect on the level of expenditure per person per day. The regression coefficient for the dummy variable representing high-income levels indicates that the holidaymakers with a high annual income spend significantly more than other tourists.

Gender has not been found to be a significant influential factor of the level of spending. This result has strong support in the tourism literature, most of the studies analyzing the determinants of tourism expenditure indicating that gender does not have a significant impact. This result is not surprising since much of travel behaviour is a group activity and not individual in nature (Wang et al, 2006).

Among the trip-related characteristics, the number of adults, the presence of children in a party and the type of accommodation were found to be statistically significant at the 0.5 level or better. Although significant at only 0.1 level, length of stay appears to have a negative effect on the level of spending with longer length of stay being associated with lower per person per day expenditure. The negative sign of the coefficients for a number of adults suggests that the more adults in a party the lower the expenditure. The significant influence of the number of adults in party on the tourism expenditure per person per day has support in previous studies like Dardis et al (1994) and Wang et al (2006). Expenditure per person per day appears to differ for parties with children. The regression coefficient indicates that having children in a party significantly reduces the expenditure. This result is in line with the findings of Agarwal and Yochum (1999) and Cannon and Ford (2002) who also found a negative influence of children on the level of tourists’ spending. With regard to the type of accommodation, the negative and significant sign of the dummy variable Dummy_FR indicates that staying with friends and relatives is associated with lower expenditure. This result leads to reject the expectation H7 (staying at hotels leads to higher spending), since staying in a hotel is not associated with higher expenditure, the results of the regression indicating no difference between hotel, B&B and other type of paid accommodation.

Surprisingly, the length of stay is not significant at the 0.05 level. This is in contrast with most of the previous studies where duration of stay has been found to have a
significant negative effect on daily spending (Taylor et al, 1993; Agarwal and Yochum, 1999; Leones et al, 1998; Cannon and Ford, 2002). However, the regression coefficient approaches significance (p=0.09) and the sign indicates a possible negative influence. One explanation for the result might be a duration of stay rather on the short to medium term, with only 16 per cent of the holidaymakers staying for more than one week. The result leads us to reject the hypothesis H6 that length of stay has a significant negative impact on per diem expenditure.

**Determinants of Total Expenditure**

The results indicate that two socio-demographic variables, age and income, and five trip-related characteristics, the number of adults in a party, length of stay, children, car hire and the type of accommodation, are statistically significant at the 0.05 level or better. Total expenditure appears to be positively influenced by age as evidenced by the positive sign and the significance of the parameter. An increase by one in the age scale leads to an increase in total expenditure by 8.8757 per cent. This result supports hypothesis H9 that age is an influential factor of total expenditure and supports the results of Jang et al (2004) who found that Japanese tourists to the US spend more on travel as they get aged.

As regards income, the results revealed that the coefficient of the dummy variable for high income is positive and is significant suggesting that higher income is associated with higher expenditure. The effect of being a high earner in total expenditure is to increase the amount of money spent by 36.9 per cent. This outcome leads us to accept the hypothesis H8 that higher income leads to higher spending, which is in line with evidence found in the literature (Fish and Waggle, 1996; Agarwal and Yochum, 1999; Cannon and Ford, 2002; Jang et al, 2004). Regarding gender, the estimated coefficient of male travellers was positive, suggesting that men spend more than their female counterparts. However, the coefficient was not statistically significant, indicating that gender is not an influential factor of total expenditure. This leads to the acceptance of expectation H10 and is backed up by evidence from the tourism literature which underlines that the holiday market is not constructed along gender lines (Marshment, 19997 cited in Wang et al, 2006).

57 As semi-logarithmic functional form has been employed, the interpretation of the coefficients as a percentage increase or decrease is realized by using the following formula: \( g = \exp(\beta) - 1 \).
The number of adults in a party as well as the presence of children appear to have a positive and significant influence in the level of total spending, as evidenced by the significance of the parameters (p<0.01). The positive influence of children is in contrast with the findings of Hsieh et al (1997) who found that children negatively affect the level of spending. However, a positive relationship between children and expenditure, although not statistically significant, has been revealed by the study of Jang et al (2004). The authors suggested that families with more children might need larger or more rooms, more food and also spend more on transportation, which lead to an increase in total spending. The regression coefficient in the current study indicates that travelling with children increases the total spending by almost 51 per cent. This leads us to reject the hypothesis H12 that “children significantly lower the total spending”.

Length of stay has a significant positive effect on total expenditure. An examination of the standardized regression coefficient revealed that duration of stay is the factor with the strongest unique contribution to explaining the total expenditure (Beta=0.621, p<0.001). Length of stay uniquely explains 32.15\(^{58}\) per cent of the variance in total expenditure. This leads to the acceptance of expectation H 13 and is in line with the findings of most of the previous research (Spotts and Mahoney, 1991; Downward and Lumsdon, 2003; Nicolau and Mas, 2005). As regards the type of accommodation, the negative and significant coefficient of the dummy variable Dummy_FR suggests that staying with friends and relatives significantly reduces the total spending per trip. The value of the coefficient indicates that staying with friends or relatives leads to a decrease in total spending by 38.1 per cent, all other things being constant. This result leads to reject the expectation H13 (staying at hotels leads to higher spending), since staying in a hotel is not associated with higher expenditure, the results of the regression indicating no difference between hotel, B&B and other type of paid accommodation. Similar results have been revealed by the study of Nicolau and Mas (2005). One variable that has not been previously analyzed in the context of influential factors of expenditure is the car hire service during the trip. The results of the regression indicate that tourists who do not use this service during their holiday spend significantly less; the reduction in total expenditure being by 24.2 per cent.

\(^{58}\) The unique contribution of the variable is computed as (the part correlation coefficient at the power of 2)*100 (Pallant, 2007).
6.2.3.5 Analysis of The Determinants of Expenditure Per Person Per Day for Different Spending Categories

Unfortunately there is no solid body of literature related to the determinants of different spending subcategories and the only studies found so far are focused on the Asian markets who exhibit totally different spending behaviours. As a consequence, no hypotheses are defined in advance. The following analysis will investigate the determinants of each category, including different relevant predictors depending on the category investigated. The main findings from the literature will be pointed out along with the results from the current analysis.

Hierarchical multiple regression or non-parametric methods have been applied to each spending category in order to discover the main factors that explain the variation in levels of expenditure. The dependent variables were the five main spending categories: lodging, shopping, food and drinks, transport and sightseeing and entertainment. A preliminary examination of the data indicated that the dependent variables do not follow a normal distribution. Applying different transformation techniques proved to be efficient only in the case of the food and drinks variable. As a consequence, hierarchical multiple regression has been employed to investigate the relationship between different socio-demographic and trip-related characteristics and the level of spending on food and drinks; and non-parametric tests (Kruskal-Wallis and Mann-Whitney tests) have been applied to check the influential factors of all the other dependent variables. Preliminary analyses were conducted to ensure that all regression assumptions are met by the variables included in the regression analysis.

Table 6.14 presents the results of the non-parametric analysis (Kruskal-Wallis and Mann-Whitney test) employed to investigate the influential factors on the level of spending on accommodation, shopping, transport and sightseeing and entertainment.
Table 6-14: Holidaymakers Sample: Non-Parametric Analysis Results

<table>
<thead>
<tr>
<th>Explanatory variable</th>
<th>Accommodation</th>
<th>Shopping</th>
<th>Transport</th>
<th>Sights</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H</td>
<td>Sig.</td>
<td>H</td>
<td>Sig.</td>
</tr>
<tr>
<td>Annual Income</td>
<td>4.69</td>
<td>0.09</td>
<td>0.51</td>
<td>0.78</td>
</tr>
<tr>
<td>Gender</td>
<td>2.26</td>
<td>0.13</td>
<td>0.72</td>
<td>0.41</td>
</tr>
<tr>
<td>Age</td>
<td>7.68</td>
<td>0.17</td>
<td>7.61</td>
<td>0.17</td>
</tr>
<tr>
<td>Party comp.</td>
<td>9.40</td>
<td>0.02</td>
<td>1.64</td>
<td>0.66</td>
</tr>
<tr>
<td>No. of adults</td>
<td>11.05</td>
<td>0.00</td>
<td>0.41</td>
<td>0.82</td>
</tr>
<tr>
<td>Type of accomm.</td>
<td>40.36</td>
<td>0.00</td>
<td>14.13</td>
<td>0.01</td>
</tr>
<tr>
<td>Length of stay</td>
<td>1.22</td>
<td>0.76</td>
<td>0.24</td>
<td>0.97</td>
</tr>
<tr>
<td>Children in party</td>
<td>188.00</td>
<td>0.02</td>
<td>290.50</td>
<td>0.39</td>
</tr>
<tr>
<td>Car hire</td>
<td>820.00</td>
<td>0.51</td>
<td>869.50</td>
<td>0.80</td>
</tr>
</tbody>
</table>

Source: Output of Kruskal-Wallis and Mann-Whitney tests applied to survey data

In line with evidence from the literature (Cai et al, 1995; Cai, 1998; Kincade and Woodard, 2001, Wang et al, 2006) the results indicate that different socio-demographic and trip-related characteristics have varying effects on each of the spending categories. As regards accommodation expenditure, none of the socio-demographic variables (age, income, gender) appear to have a statistically significant impact. However, the annual income of the chief earner approaches significance and the follow up tests applied to investigate which of the cohorts differ, suggested that high-income tourists tend to spend more on lodging. Cai (1999) also found income to be an influential factor of spending on accommodation. Among the trip-related factors, travel party, the number of adults, type of accommodation and the presence of children in a party appear to be statistically significant at 0.05 level or better. The results of the follow-up Mann-Whitney tests revealed that families spend significantly less than couples and the more adults in a party significantly lowers the expenditure on accommodation. The later is not surprising since in Ireland there is a pay-per-room and not pay-per-person pricing approach for lodging. This leads to a significantly lower level of per person expenditure when more people share the same room. This is in contrast with the findings of Wang et

59 Mann-Whitney tests were used to follow up the findings of Kruskal-Wallis tests in order to explore which of the cohorts significantly differ. A Bonferroni correction have been applied in each case and all the effects are reported at a p=0.05/number of comparisons.
al (2006) who found that an increase in the number of adults in a party is associated with a higher level of spending on lodging. Similar results with regard to the influence of travel party on the level of lodging has been found by Soteriadès and Arvanitis (2006) in a study of expenditure patterns of British and German tourists in Crete.

The impact of children as part of the travel group has also been investigated and the results revealed a significant negative effect (H=188.000, p<0.05). The explanation might be similar with the one in the case of more adults in the travel group: the same price of room divided by more people leads to a lower per person expenditure. Expenditure per person per day on lodging appears to differ according to the different types of accommodation used. The results of the Jonckheere-Terpstra Test (J-T=674.500, p<0.001)\textsuperscript{60} indicated a statistically significant descending trend with tourists staying in hotels spending the most and those staying with friends and relatives spending the least on accommodation.

As regards shopping expenditure, it is interesting to learn that the only one influential factor is the type of accommodation (H=14.134, p<0.01). Mann-Whitney tests were used to follow up this finding. A Bonferroni correction was applied and so all effects are reported at 0.125\textsuperscript{61} level. The results showed a statistically significant difference in the level of spending on shopping items between tourists accommodated in self-catering units and those staying in hotels, B&B or with friends and relatives. A deeper analysis revealed that the major difference is in the bill for groceries. This is not surprising considering that self-catering units offer kitchen facilities; hence tourists tend to replace eating out in a restaurant with cooking their own meals.

The results of the tests applied to the transport variable revealed that party composition, the type of accommodation and “renting a car” significantly affect the level of spending on transport. Almost 3/4 of the respondents (74.2 per cent) did rent a car, spending on average €201.98 per trip or almost € 17 per person per day. The results of the Mann-Whitney tests (U=276.000, p<0.001) showed that the difference in transport spending

\textsuperscript{60} Jonckheere-Terpstra Test is used to test for an ordered pattern in the groups compared. The type of accommodation variable contains five groups in the following order: Hotel, B&B, Self-catering, Other, Staying with friends and relatives. The J-T tested whether there is a trend across these groups.

\textsuperscript{61} An analysis of the shopping expenditure on all the items indicated that tourists staying in self-catering units spend more due to a higher groceries bill. As a consequence, Mann-Whitney tests were used to test the significance of this difference in spending level. As there were four comparisons (Hotel, B&B, Other and FR vs Self-catering the new level of significance is 0.05/4=0.0125.
between tourists with a rented car and those without is statistically significant, with the later spending significantly less than the former. As regards party composition, the tests revealed that families spend significantly less than couples. This can be justified by a higher number of persons in the travel group for families. The travel party has also been found to be a significant influential factor of transport expenditure by Soteriades and Arvanitis (2005). In their study, families appeared to spend more than couples. This difference in the direction of the influence compared to the current study can be explained by the employment of different dependent variables. Soteriades and Arvanitis (2005) used total per person expenditure, hence the length of stay is not factored out as in the current study where expenditure per person per day is used. Transport expenditure appeared to differ according to different types of accommodation used ($H=12.166, p<0.05$). The results of the follow-up tests (Mann-Whitney tests) revealed that tourists staying with their friends or relatives spend significantly less than tourists staying at hotels, B&Bs or self-catering units.

No significant influential factor has been found for sightseeing and entertainment expenditure. This is in contrast to the findings of Wang et al (2006) who found that entertainment expenditure significantly varies according to the gender of tourists.

As previously discussed, data transformation proved to be efficient in normalizing the distribution of the food and drinks variable. As a consequence, regression analysis has been employed to investigate the determinants of the level of spending on this expenditure category. Preliminary analyses were conducted to ensure that all regression assumptions are met. The independent variables were different socio-demographic and trip related characteristics. The inclusion of explanatory variables has been made, similar to previous analyses, in two steps: first the socio-demographic variables have been included, explaining only one per cent of the variance in spending; followed by trip-related characteristics, the overall model explaining eleven per cent of the variance. Although this explanatory power is lower than would be desired, this finding is significant as indicated by the significance of ANOVA output ($F [12, 81] =2.061, p<0.05$).

The results of the regression analysis indicate that the length of stay is the only factor that significantly influences the level of spending on food and drinks, as indicated by
the significance of the parameter (p<0.01). The negative sign suggest that a longer duration of stay is associated with lower spending. An increase in the length of stay by one leads to a decrease in expenditure on food and drinks by 6.3 per cent. This finding is supported by the results of Wang et al (2006), who also found length of stay to be an influential factor for food and drinks expenditure of visitors to Northern Indiana.

6.2.3.6 Summary

The aim of this section was to investigate the determinants of holidaymaker expenditures on trips in an attempt to provide a better understanding of this market for tourism marketeers. The socio-demographic and trip-related characteristics like age, income, length of stay, number of adults in party, the presence of children in travel party and the type of accommodation used were important determinants of expenditures. However, the importance and the direction of the effect varied by type of spending: total expenditure, expenditure per person per day, expenditure on lodging, food and drinks, shopping, transport and sightseeing and entertainment. Multiple regression or non-parametric techniques have been applied to each spending category to discover the most important relationships.

The results that indicate the significance and the direction of the effect of each explanatory variable on the level of expenditure for different spending categories are summarised in Table 6.15.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Exp/p/d</th>
<th>T Exp</th>
<th>Lodging</th>
<th>Shopp.</th>
<th>F&amp;D</th>
<th>Trsp.</th>
<th>Sights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>✓ (+)</td>
<td>✓ (+)</td>
<td>X</td>
<td>X</td>
<td>✓ (+)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Gender</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Income</td>
<td>✓ (+)</td>
<td>✓ (+)</td>
<td>✓ (+)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Length of stay</td>
<td>✓ (-)</td>
<td>✓ (+)</td>
<td>X</td>
<td>X</td>
<td>✓ (-)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Type accomm.</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
<td>✓ (+)</td>
<td>X</td>
<td>✓ (+)</td>
<td>X</td>
</tr>
<tr>
<td>No. of adults</td>
<td>✓ (-)</td>
<td>✓ (+)</td>
<td>✓ (-)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓ (+)</td>
</tr>
<tr>
<td>Children</td>
<td>✓ (-)</td>
<td>✓ (+)</td>
<td>✓ (-)</td>
<td>X</td>
<td>X</td>
<td>✓ (-)</td>
<td>X</td>
</tr>
<tr>
<td>Car hire</td>
<td>X</td>
<td>✓ (+)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓ (+)</td>
<td>X</td>
</tr>
</tbody>
</table>

Source: Primary Research
Summarising the results for each spending category, the expenditure on a daily per person basis of a holidaymaker was found to be a function of age, income, type of accommodation, number of adults, children in a party and length of stay. The results indicate that older tourists as well as tourists earning a higher annual income tend to spend more. Conversely, a lower expenditure is associated with a longer length of stay, higher number of adults in a party, travelling with children and staying with friends or relatives.

With one exception, gender, all socio-demographic and trip related characteristics were found to have a significant effect on the level of total spending. The results revealed that the length of stay is the most influential factor for total expenditure, alone explaining 32 per cent of the variation. This is not surprising since increasing the length of stay is equivalent with an increase in the holiday quantity.

Income, type of accommodation, the number of adults in a party and the presence of children in the travel party were found to be significant factors. Tourists with a relatively high income prefer more expensive accommodation establishments, spending significantly more than other holidaymakers. The number of adults in a party as well as travelling with children significantly lower the spending per person per day on accommodation. This is not surprising since in Ireland there is a pay-per-room and not a pay-per-person pricing approach for lodging. This leads to a significantly lower level of per person expenditure when more people share the same room.

The amount of money spent per person per day on shopping was found to be explained only by the type of accommodation used. Tourists staying in self-catering units spend significantly more on shopping. The major difference in spending was noticed on the groceries bill.

The duration of stay at the destination appears to be the only significant factor explaining the variation in food and drinks expenditure. A longer length of stay is associated with lower expenditure per person per day. Although significant at only 0.1 level, the expenditure appears to vary with age, the older the tourists the higher the spending.
This analysis provided a comprehensive picture of the determinants of holidaymaker expenditure and confirmed that trip-related characteristics contribute to an explanation of expenditure variation more than socio-demographic characteristics. The results provide decision makers with new insights into tourist expenditure patterns and emerging trends, helping to better understand the holidaymaker market. Using the information provided throughout this study, the tourism marketeers could provide better-tailored products and can develop better strategic marketing tools in order to target those holidaymakers that would lead to the maximisation of profits.

6.2.4 An Analysis of The Expenditure Patterns of The Business Tourist Market to The Shannon Region

The current section investigates the spending behaviour of the British business tourist market to the Shannon Region. The section is structured as follows: first a short overview of the current state of the research in this area will be provided in the background section followed by a description of the profile of a business traveller and an in-depth analysis of the expenditure patterns. The section will conclude with a summary of the main findings.

6.2.4.1 Background

With the increased recognition of the economic benefit of the tourism sector, more and more researchers have been advocating the need to examine tourism expenditure and to understand tourists’ spending behaviour (Mak, 2004; Soteriades and Arvanitis, 2006; Law and Li, 2007). Business tourism is one of the most appealing tourism segments not only in terms of numbers but also in terms of expenditure with studies showing business travellers having the highest daily per person spending (Law and Li, 2006). According to Wootton and Stevens (1995), business tourism has grown sturdily since 1980 and continued to grow faster than other tourism segments despite the international economic downturn in the first half of 1990s. Apart from the volume and high expenditure, business tourism has other specific features that make it more interesting to tourism marketeers: 1) it is less seasonal than other forms of tourism, with peaks and troughs of demand less marked; 2) business travellers are a major source of demand for hotel accommodation, accounting for at least two thirds of most leading hotels’ occupancy (Wootton and Stevens, 1995); 3) business tourists are considerably less price sensitive than holidaymakers (Kulendran and Witt, 2003).
Although the importance of business tourism is generally acknowledged, there has been little attention devoted to investigating the spending behaviour of this segment. With only a few exceptions (i.e. Wootton and Stevens, 1995; Kulendran and Wilson, 2000) most of the literature related to business travellers is qualitative in nature, focusing on the issue of service quality or factors influencing the level of satisfaction of business tourists for different tourism services especially hotel accommodation (Weaver and Oh, 1993; Gundersen et al, 1996; Chu and Choi, 2000; Callan and Kynndt, 2001). Kulendran and Wilson (2000) argued that not enough research has been conducted to model business travel, given the importance of this important component of international travel. The authors stressed that from a review of 100 tourism-modelling studies published in the tourism literature, there were only two that dealt specifically with business tourism. However, the profile of business travellers is described in relation to other tourist segments in some of the studies investigating the spending behaviour of different tourism markets (Jang et al, 2003).

The following section presents an analysis of the British business market in the Shannon Region. A socio-demographic profile as well as a summary of the trip characteristics will be first provided, followed by an in-depth analysis of the spending behaviour.

6.2.4.2 The Profile of a British Business Tourist to The Shannon Region

Socio-demographic Profile

Table 6.16 presents the socio-demographic profile of business sample collected via the diary questionnaire.
Table 6-16: Business Tourists: Socio-demographic Profile

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>37</td>
<td>67.3</td>
</tr>
<tr>
<td>Female</td>
<td>18</td>
<td>32.7</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 – 34 years</td>
<td>11</td>
<td>20.0</td>
</tr>
<tr>
<td>35 – 44 years</td>
<td>15</td>
<td>27.3</td>
</tr>
<tr>
<td>45 – 54 years</td>
<td>22</td>
<td>40.0</td>
</tr>
<tr>
<td>55 – 64 years</td>
<td>6</td>
<td>10.9</td>
</tr>
<tr>
<td>&gt; 65 years</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Annual Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15,001 – 25,000</td>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>25,001 – 35,000</td>
<td>14</td>
<td>25.0</td>
</tr>
<tr>
<td>35,001 – 45,000</td>
<td>8</td>
<td>14.3</td>
</tr>
<tr>
<td>45,001 – 55,000</td>
<td>15</td>
<td>26.8</td>
</tr>
<tr>
<td>55,001 – 65,000</td>
<td>5</td>
<td>8.9</td>
</tr>
<tr>
<td>&gt; 65,000</td>
<td>9</td>
<td>16.1</td>
</tr>
</tbody>
</table>

Source: Primary Research

Based on the data provided in Table 6.16, a typical business tourist is more likely to be a male (in 67 per cent of the cases), work in a professional, managerial, or technical position; be younger than 55 years, with a higher chance to be between 45 and 55 years old and have an annual income between 25,000 and 55,000 GBP. Men account for slightly more than two thirds of business trips. This compares to non-business tourists where men took 31 per cent of the trips and women 69 per cent. However, the gender distribution of the respondents indicates that the general trend of an increase in the number of women business travellers in recent years holds in the case of British business market to Shannon Region as well, the female business tourists counting almost one third of the business respondents. About two thirds of all business trips were made by respondents aged 35 to 54. The younger (25-34 years) and older groups (over 55 years) represent about 20 per cent and 13 per cent of business respondents, respectively. Most of the business trips (96.4 per cent) were made by those individuals with an annual income that exceeds the national average which was about 24,000 GBP according to the National Statistics UK (http://www.statistics.gov.uk/cci/nugget.asp?id=285, 4/09/2008). A significant proportion (16 per cent) of the business respondents reported an annual income over 65,000 GBP (representing the upper management segment).
Chapter 6  An Analysis of the Determinants of Tourist Expenditure

*Trip-related Profile*

The trip-related profile of business sample is summarised in Table 6.17.

**Table 6-17: Business Tourists: Trip-related Profile**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Travel Party</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travelling Alone</td>
<td>40</td>
<td>71.4</td>
</tr>
<tr>
<td>Couple</td>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>Travelling with family</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Other adult party</td>
<td>13</td>
<td>23.2</td>
</tr>
<tr>
<td><strong>Length of Stay</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Night</td>
<td>16</td>
<td>28.6</td>
</tr>
<tr>
<td>2 Nights</td>
<td>26</td>
<td>46.4</td>
</tr>
<tr>
<td>3 Nights</td>
<td>7</td>
<td>12.5</td>
</tr>
<tr>
<td>4 Nights</td>
<td>7</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Type of Accommodation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel</td>
<td>47</td>
<td>83.9</td>
</tr>
<tr>
<td>B&amp;B</td>
<td>7</td>
<td>12.5</td>
</tr>
<tr>
<td>Friends and Relatives</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Source: Primary Research

Table 6.17 shows that a typical business traveller is an individual who travels alone, stays two nights at the destination and uses hotels as the main accommodation establishment. The figures from the table reveal a very distinctive cohort when compared with other tourist categories. More than two thirds of the business respondents are individual travellers. This compares to 19 per cent of individual tourists among the non-business cohorts. In contrast to other tourists for whom a longer length of stay is not atypical, 64 per cent of the trips being for more than 3 nights, business trips are generally short with 4 nights being the maximum length of stay. Another distinctive characteristic of business travellers is the accommodation establishment chosen during the stay. The majority preferred to be accommodated in hotels (84 per cent). This is again in contrast to the 22 per cent of the non-business tourists who stayed in hotels.

*Expenditure Profile*

Table 6.18 shows the average spending and the distribution of the total expenditure and expenditure per person per day among different spending categories of business tourists to the Shannon Region.
Table 6-18: Business Tourists: Spending Profile

<table>
<thead>
<tr>
<th>Expenditure category</th>
<th>Expenditure per person per day</th>
<th>Total expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Accommodation</td>
<td>85.55</td>
<td>190.86</td>
</tr>
<tr>
<td></td>
<td>45.86</td>
<td>46.81</td>
</tr>
<tr>
<td>Shopping</td>
<td>4.19</td>
<td>11.06</td>
</tr>
<tr>
<td></td>
<td>2.25</td>
<td>2.71</td>
</tr>
<tr>
<td>Food and Drinks</td>
<td>52.99</td>
<td>115.72</td>
</tr>
<tr>
<td></td>
<td>28.41</td>
<td>28.39</td>
</tr>
<tr>
<td>Transport</td>
<td>42.26</td>
<td>83.79</td>
</tr>
<tr>
<td></td>
<td>22.65</td>
<td>20.55</td>
</tr>
<tr>
<td>Sightseeing</td>
<td>1.54</td>
<td>6.25</td>
</tr>
<tr>
<td></td>
<td>0.83</td>
<td>1.54</td>
</tr>
<tr>
<td>Total</td>
<td>186.55</td>
<td>407.72</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Primary Research

As expected, accommodation attracts the highest part of the daily budget, counting for as much as 46 per cent. Business tourists allocate a significant amount to food and drinks (28 per cent) and transportation (23 per cent), while ignoring shopping and sightseeing and entertainment. Valuing quality more than other tourist cohorts, business travellers prefer to be accommodated in hotels, spending on average 98 EUR per night. From the money allocated to food and drinks, more than three quarters go to restaurants for dinners (including drinks as well). The analysis of transport behaviour revealed that 41 per cent of business respondents did hire a car and 34 per cent used taxi services spending on average 63.3 EUR and 33.9 EUR respectively per day.

6.2.4.3 Analysis of The Expenditure Determinants

Since business tourists are of major importance to the profitability and success of most tourism marketeers, a better understanding of the spending behaviour is deemed necessary. Business travellers tend to be the heaviest spenders in terms of daily per person spending of most tourism services including accommodation, transportation and restaurants. The profit maximization of service providers can be achieved only if they respond to their special needs by developing services and creating promotions that appeal especially to this cohort. Cleverdon (1985, cited in Bleppony et al, 2003 p. 34) argued that as long as business travellers receive the desired facilities and services at the expected level of quality, the source of income they generate will be more reliable as it is less susceptible to seasonal fluctuations. According to Sondavan and Schalkamp (1988), the business travel market constitutes a more specific target group than
holidaymakers and their expenditure is approximately twice as much (Hampton, 1989). Although there is a general agreement regarding the distinct profile of a business traveller, an analysis of the main determinants of their spending has not been the object of any tourism research study. To fill this gap, the following section focuses on an analysis of the expenditure of the British business tourism market to the Shannon region.

The Model

Similar to the analyses of the determinants of the expenditure for VFR and holidaymaker tourists, the investigation of the main factors affecting the level of spending of business tourists has been realised by employing hierarchical regression. The simultaneous impact of three socio-demographic (age, income and gender) and four trip-related characteristics (length of stay, type of accommodation, total party size, car hire) on the level of expenditure has been assessed. Preliminary analyses have been conducted in order to ensure no violation of the regression assumptions. Since one of the requirements namely the normality of the dependent variable has been not met a semi-logarithmic functional form has been adopted:

\[ \ln(\text{Exp\_person\_day}) = F(\text{age, gender, income, length of stay, type of accommodation, party size, car hire}) \]

Model Assessment

The socio-demographic and trip related characteristics have been regressed on expenditure per person per day. The overall explanatory power of the model indicated by the value of the \( R^2 \) was 43 per cent. It is interesting to learn that the socio-demographic and trip-related characteristics have similar contributions to explaining the variation in the level of spending, the unique contribution of each group being around 20 per cent. The regression coefficients are presented in Table 6.19. 62

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62 The value of adjusted \( R^2 \) was 34.
Chapter 6  An Analysis of the Determinants of Tourist Expenditure

Table 6-19: Business Tourists: Regression Coefficients

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Exp. Per person per day(^3)</th>
<th>Parameter</th>
<th>T value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummy_Female</td>
<td>-0.205</td>
<td>-1.924*(^63)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.061</td>
<td>-1.134</td>
<td></td>
</tr>
<tr>
<td>Dummy_income_high</td>
<td>0.196</td>
<td>1.997**</td>
<td></td>
</tr>
<tr>
<td>Party size</td>
<td>-0.142</td>
<td>-1.600</td>
<td></td>
</tr>
<tr>
<td>Dummy_B&amp;B</td>
<td>-0.194</td>
<td>-1.354</td>
<td></td>
</tr>
<tr>
<td>Length of stay</td>
<td>-0.128</td>
<td>-2.518**</td>
<td></td>
</tr>
<tr>
<td>Car-hire</td>
<td>0.247</td>
<td>2.378**</td>
<td></td>
</tr>
</tbody>
</table>

*\(p<0.1\); ** \(p<0.05\)

Four explanatory variables have been found to have a significant effect on the level of spending of business tourists: gender, income, the length of stay and renting a car.

It is well documented in the tourism literature that although male and female business travellers are similar in many aspects, there are certain areas where the behaviour of the two groups differ significantly. McCleary et al (1994) did investigate the gender-based differences in hotel selection and service-use preferences. The authors concluded that although both groups consider basic services such as a clean and comfortable room and free local phone service to be important, businesswomen value more security, in-room services, amenities and low price as selection criteria. The study also revealed that female business travellers take more international trips and their stay is twice as long.

The hotel industry is one of the sectors that has realized the need to adapt the services and facilities offered in order to better accommodate the female business tourists. almondari and Burrell (2000) stressed that the steady growth in the number of female business travellers did determine a swift in the strategy of many hotel chains. Being aware of the different wants and needs of female business tourists compared to the male counterparts, the hotels did re-market themselves by offering a more personalized service and additional facilities.

The result of the current analysis confirms the different spending patterns of male and female tourists, the latter spending significantly less than their male counterparts. A further investigation of the differences in expenditure for different spending categories

\(^{63}\) Very close to the 0.05 level, \(p=0.06\)
revealed that the biggest discrepancy occurs among the transport and food and drinks expenses. It emerged that male business tourists spend three times as much on transport as the female tourists. As the difference for transport expenditure was so big, further investigation of the difference in the transport services used by the two groups was deemed necessary. The data revealed that only 27 per cent of the businesswomen did rent a car, which compares to the 46 per cent of the businessmen who used the same service. In addition, when comparing the average per person per day cost of the hired car, men prefer more expensive cars, spending 31 per cent more than the female business tourists. Both male and female travellers make little or no use of public transport, with only 5 per cent of them taking a bus. The analysis of the food and drinks expenses revealed that whilst there was no significant difference in the level of spending on food, the male tourists spent five times more than the female counterparts on drinks.

Length of stay appears to be the factor with the highest impact on the level of business tourists’ spending. This result is somehow surprising since business tourists are believed to be less price sensitive, hence having a more constant spending pattern, regardless the number of days stayed at the destination. The results indicate a negative relationship between the length of stay and expenditure per person per day. The longer the stay the lower the expenditure.

Another surprising result is the significant effect of income on the level of spending. It emerged that business tourists with higher annual income spend significantly more. Since the expenses during a business trip are not personal, one would expect income to play no role in determining the spending. One explanation might be that those persons with a higher income are higher in the corporate hierarchy; hence the budget for travel is higher.

6.2.4.4 Summary

As previously mentioned, despite the general acknowledgment of the importance of business tourism, there has been little attention devoted to investigating the spending behaviour of this cohort. This section aimed to fill in the gap by providing an-in depth analysis of the spending patterns of British business tourists to Shannon Region. First the socio-demographic and trip related profile of the business respondents has been
outlined, followed by an analysis of the most influential factors of the level of expenditure.

The data collected through the diary survey profiles a typical business tourist to be more likely a male (in 67 per cent of the cases), work in a professional, managerial, or technical position; be younger than 55 years, with a higher chance to be between 45 and 55 years old and have an annual income between 25,000 and 55,000 GBP. As regards the trip characteristics, a typical business traveller is an individual who travels alone, stays two nights at the destination and uses hotels as the main accommodation establishment. In terms of expenditure, business tourists spend the most on accommodation (46 per cent), followed by food and drinks (28 per cent) and transportation (23 per cent), while spending insignificantly on shopping and sightseeing and entertainment.

The results of the regression analysis employed in order to investigate the main determinants of the business expenditure revealed that gender, income, length of stay and renting a car significantly affect the spending. The finding suggest that male tourists spend significantly more than their female counterparts on a per person per day basis. Although one would expect length of stay to play a less influential role on the level of spending, as business tourists are expected to be less price sensitive; the results of the analysis suggest that a longer length of stay is associated with lower per person per day expenditure. Being a high-income earner and renting a car is also associated with higher expenditure.

6.3 Conclusions

This chapter introduced a model for travel expenditure based on socio-demographic and travel-related characteristics to identify the most important factors affecting the expenditure of British tourists visiting the Shannon Region. In the development of this model, an attempt was made to analyse tourist consumption patterns in general and those of holidaymakers, business tourists and VFRs in particular. The study has been based upon the expenditure data gathered through the diary survey conducted at Shannon Airport (see Chapter 5 for a detailed description of the diary approach).
First the entire sample was analysed in order to identify the main drivers of expenditure per person per day. The results were compared to a sample collected in a previous survey in 1998. Both models revealed similar results indicating no major changes in the last ten years. The purpose of visit was identified as one of the major factors affecting the level of spending. According to Morrison (1996), purpose of visit segmentation gained popularity in the tourism industry as the primary base for segmenting the market into a business travel market and a pleasure/personal travel market.

Most of the tourism marketeers, including lodging, restaurants, airline or destination marketing organizations, use purpose of visit at least as part of their segmentation approach. The idea behind the increased popularity of this type of segmentation is the assumption that travellers with different purpose of visit are likely to behave differently, have different needs and wants, hence leading to different patterns in their expenditure. Despite the general agreement about the different spending behaviour of tourists with different purpose of visit, there is a dearth of studies analysing the expenditure of each cohort. This chapter filled this gap and contributes to a better understanding of spending behaviour in each segment.

Hierarchical regression has been employed to complete the analyses and the main findings are summarised in Table 6.20.

*Table 6-20: Summary of Regression Results for All Models*

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Whole sample</th>
<th>VFR</th>
<th>Holidaymakers</th>
<th>Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>X</td>
<td>X</td>
<td>✓ (+)</td>
<td>X</td>
</tr>
<tr>
<td>Gender</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Income</td>
<td>✓ (+)</td>
<td>✓ (+)</td>
<td>✓ (+)</td>
<td>✓ (+)</td>
</tr>
<tr>
<td>Purpose of visit</td>
<td>✓</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Length of stay</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
</tr>
<tr>
<td>Type of accommodation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>No. of adults</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
<td>X</td>
</tr>
<tr>
<td>Children</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
<td>✓ (-)</td>
<td>N/A</td>
</tr>
<tr>
<td>Car hire</td>
<td>✓ (+)</td>
<td>✓ (+)</td>
<td>X</td>
<td>✓ (+)</td>
</tr>
</tbody>
</table>
Chapter 6 An Analysis of the Determinants of Tourist Expenditure

The results revealed that several socio-demographic (income) and trip-related characteristics (length of stay, type of accommodation, number of adults and children in party) were found to be consistently important in explaining travel expenditure. Income has been found as significant in explaining the expenditure of each of the cohorts analysed. As expected, income is positively related to expenditure, tourists with higher income spending significantly more.

The length of stay has been found to successfully explain the expenditure in all four models. Tourists staying for an extended period of time at the destination are associated with lower per person per day expenditure. The fact that the duration of stay negatively affects the expenditure of business tourists is somehow surprising since this cohort is expected to be less price sensitive regardless of the length of stay, as their expenses are corporate and not personal.

Expenditure appears to differ according to the type of accommodation used. Tourists staying with their friends or relatives are spending significantly less. The number of adults and the presence of children in the travel party are significant in explaining the variations in expenditure. A higher number of adults in the party or adults travelling with children is associated with lower spending. However, business expenditure is immune to the travel party size.

Apart from the characteristics discussed above which were common for all analysed cohorts, some segments showed particularities. For example, although gender is generally accepted as a very bad predictor of expenditure, it has a significant impact on the level of business expenditure. Female travellers have been found to spend significantly less on transport and food and drinks. Age is another factor with isolated impact. Holidaymakers’ expenditure appears to be positively correlated with age: the older the tourists, the higher the expenditure.

From a theoretical point of view, this study contributes to the body of literature for travel expenditure by examining the simultaneous impact of socio-demographic and trip-related characteristics on the expenditure of an entire market to a destination. Additionally, different purpose of visit segments were analysed in the previous sections, whilst the author is not aware of any previously conducted, similar analysis.
This study can help destination marketeers to better understand their customers and to create the profile of tourists with the greatest propensity to spend money in their premises. By understanding the main drivers of the expenditure and their influence on different cohorts, destination managers can allocate their marketing budgets more effectively and can develop better-tailored products in order to maximise profit. The results obtained suggest the following specific implications:

- Profits can be maximised by attracting a high number of tourist for short-breaks, because the length of stay has a negative correlation with expenditure;
- Profits can be increased by making a destination more attractive for business travellers, by providing conference- and meeting facilities;
- Further increases of profit would be possible by attracting business-travellers to extend their stay with a short-break. By combining the previous two findings with the fact that business-travellers spend less than holidaymakers on a short break, this recommendation becomes obvious, and
- Advertising for couples will attract more high-spenders.

The results presented in this chapter are corroborated by previous findings in the tourism literature. This further invalidates concerns that tourists who participate in diary-surveys show a different behaviour and also strengthens the findings presented in the next chapter.

The following chapter will present an analysis of spending behaviour based on a unique feature of the diary method. Having detailed data of the expenses on the individual days, spending variability over the days of the stay at a specific location can be studied.
Chapter 7: Analysis of Day-to-Day and Geographical Spending Patterns

Chapter 4 outlined the poor quality of tourism data and the need to investigate new data collection methods. A primary objective is to gather high quality data more efficiently and cost effectively. Chapter 5 introduced the diary method as possibly being a more reliable alternative to the traditional methods employed for the collection of tourism expenditure data. The advantages and disadvantages associated with the diary method have been highlighted in previous chapters (see Chapter 4 and Chapter 5). Chapter 6 focused on the identification and analysis of the major determinants of tourist expenditure. The results of the diary research conform very well to other (non-diary) methods. Moreover, the evidence from the research conducted suggests that the behaviour of participants was not affected by their involvement. The improved quality and finer granularity of the data can not only be used to provide the same impact analysis in a more reliable way, but also opens the gates for new areas of study. Examples include, the variation of consumption patterns over a holiday or the geographic consumption trajectory of visitors. This chapter aims to further our understanding related to tourism consumption behaviour by investigating the variation of expenditure over the days of a visit and the geographical distribution of spending. This work is novel and perhaps seminal in the tourism literature.

7.1 Day-to-Day Variations in Spending Behaviour

The current section illustrates one of the most important features of the diary method, i.e. the ability to deduce precise temporal trajectories of expenditure. These trajectories have not been reported in previous studies as the data was not available.

7.1.1 Background

According to Wanhill (1990), one of the drawbacks of current tourism statistics is their aggregate nature which permits only a limited interpretation and identification of changing demand and supply patterns. Most of the available data-sets about tourist behaviour contain records related to the overall trip-expenditure. This aggregate amount is then divided by the number of people in the party and the length of stay to obtain the
daily per-capita spending. It is easy to see that this figure is somewhat misleading as people spend different amounts on different days, and not everyone in the party spends an equal share of the total expenditure. Hence, these statistics fail to provide information on the day-to-day variation in tourist spending or to provide a typical daily pattern. This topic has previously been omitted in the tourism literature, mostly because of the dearth of adequate data.

In related areas to tourism such as transport, the variability in travel behaviour has been discussed by a limited number of researchers (see Kitamura et al (2006)). The focus has been to identify the typical daily pattern. Like in the field of tourism, the main obstacle in transportation research is the availability of data. Katamura et al 2006, p.260) state that the data sets suitable for this kind of analysis “are extremely rare and far apart”.

Previous studies in the area of transportation have been conducted by Hanson and Huff in 1986, who provide a detailed analysis of the variable 'travel behaviour of individuals over time'. The conclusion of their research was that some of the travel behaviours (like trips to get to work) examined in isolation to other daily travel activities are repeated on a day-to-day basis but when the overall daily travel activity is analyzed a one-day pattern is not representative of a person's routine travel.

While some research regarding the variability of travel behaviour on a day-to-day basis has been conducted in the area of transportation it is clear that in the area of tourism a major deficiency exists. A review of all relevant journals and tourism databases reveals that this area has been untouched by researchers. Undoubtedly, the absence of data has been the main barrier.

7.1.2 Day-to-Day Spending Behaviour of Tourists Visiting The Shannon Region

In the current study the data availability was not a problem. The expenditure diary provides multi-day expenditure figures for all spending categories for all respondents. The following section will give insight into day-to-day expenditure variations.

As a similar study was conducted in 1998, a comparison between the spending behaviour of tourists visiting the Shannon Region in 1998 and 2006-2007 can be provided. This will allow us to investigate changes that occurred in the last eight years. Further, a general pattern will be defined based on the analysis of day-to-day variation
of expenditure of tourists staying for a different number of days in the region as well as the variation on a daily basis of different spending categories. Finally, an analysis of spending behaviour over time for different tourist cohorts will be presented.

7.1.2.1 Comparison of Expenditure Trajectories: 1998 versus 2006

Analysis, based on the diary surveys carried out 1998 and in 2005/06 reveals some interesting consumption patterns. These findings are presented in what follows. Graph 7.1 presents a comparison between the variations of daily per capita expenditure based on the data collected in 1998 (by NCTPS) and the data collected through the current survey. The figures from 1998 are expressed in Irish Pounds and no adjustments have been made as the purpose of the graph was to depict the shape of the curve and not to compare the level of spending.

Graph 7-1: Spending Variation Over the Days of Stay: 1998 versus 2006

The day-to-day variation in expenditure is expressed as a coefficient of variation (CV), calculated as the ratio of the standard deviation to the mean. It is noteworthy that spending behaviour actually did not change in the last 8 years: the two graphs are very similar with the average coefficient of variation for the two years being almost equal: 0.65 for 1998 compared to 0.64 for the current survey.

7.1.2.2 General Spending Pattern

The following analysis is an explanatory comparison of the mean per capita expenditure across the days of visit based on the data collected in the current survey. As the length of stay varies from 1 to 14 nights, the sample size for each day is different (e.g. for the
first and second day the sample size is 295, for the third day it is the total number minus those with a length of stay of 1 night and so on). As the sample size for more than 7 nights is very small, for comparison purposes only the first 8 days were taken into consideration.

**Graph 7.2: Day-to-Day Variation of Per Capita Expenditure**

Graph 7.2 shows the variation of per capita expenditure for different spending categories on a day-to-day basis. The curves for accommodation, food and drinks and shopping follow the same trajectory: they reach the peak on the second day of stay and slowly descend along with the days. The graph doesn’t show any sharp ascents or descents in expenditure from one day to another and this is sustained by the value of the coefficient of variation (0.5 for accommodation, 0.39 for shopping and 0.4 for food and drinks). It is interesting to note that transport expenses are almost constant over the days (CV=0.01). This might be explained by the high number of tourists (53 per cent) who rent cars, as the price for this service is constant over the days. Unfortunately no test can be applied in order to test for the statistical significance of the variability of expenditure on a day-to-day basis, as the samples are not totally dependent or independent.

The following analysis focuses on the day-to-day variation(s) in expenditure for tourists with different lengths of stay. The Friedman’s ANOVA is used to analyze the statistical significance of the variation in daily expenditure for each cohort.

Graph 7.3 shows the variation in spending over the days of visit for tourists staying from 1 to 6 nights.
Graph 7-3: Day-to-Day Expenditure Variation - Length of Stay 1 to 6 Nights

Visually, two patterns in the variation of per capita expenditure on a day-to-day basis can be described: 1) short time visitors (1-4 nights) tend to constantly increase their spending until the second last day and 2) visitors staying for more than four nights show an almost constant evolution. The sharp decrease on the last day can be attributed to a lack of expenditure for accommodation and to the fact that some visitors leave early in the morning, not having time to spend money. The coefficient of variation computed for each cohort revealed a low variation during the days, from 0.55 for the 2 nights stay to 0.27 for 6 nights stay. If the last day of stay is not included in the formula as it is not representative for the reasons mentioned above, the coefficient of variation is almost insignificant ranging from as low as 0.08 for 6 nights stay to 0.18 for three nights stay.

Friedman’s ANOVA has been conducted to analyze the statistical significance of the day-to-day variation for each cohort. The test revealed that the day-to-day variation of per capita expenditure for 1 to 5 nights was statistically significant ($\chi^2(1) = 18, p < 0.01; \chi^2(2) = 64.99, p < 0.01; \chi^2(3) = 62.83, p < 0.01; \chi^2(4) = 76.01, p < 0.01; \chi^2(5) = 37.68, p < 0.01$) while for 6 nights stay the daily expenditure did not significantly change over the days ($\chi^2(6) = 11.56, p > 0.05$). Wilcoxon tests were used to follow up these findings. The Bonferroni correction was applied and so all effects are reported to different levels of significance depending on the number of comparisons (ex: for 2 nights stay the effects were tested at the 0.0167 level which is 0.05/3 comparisons: Day 1 with Day 2, Day 1 with Day 3 and Day 2 with Day 3). The Wilcoxon tests revealed that the difference in daily expenditure is statistically significant for the comparisons with either first or last day and that there is not a significant variation for the other days of stay.
It can be concluded that the tourists seem to allocate a daily budget for expenditure. The first and last days are atypical because expenditure is significantly influenced by the time of arrival and departure. Once we exclude these days we observe a general and consistent pattern of expenditure.

Friedman’s ANOVA and Wilcoxon tests have been applied to test the significance of the day-to-day variation of per capita expenditure for different spending categories and for varying lengths’ of stay. The results revealed that the daily variation of all spending categories follows the same general pattern described for total per capita expenditure. With the exception of first and last day, the day-to-day variation was not found to be statistically significant.

7.1.2.3 An Analysis of the Day-To-Day Variation of Expenditure for Different Cohorts Of Visitors

The following sections investigate the differences in spending behaviour by analyzing the variation of expenditure on a day-to-day basis for different cohorts of visitors. The cohorts have been created from the total population by grouping by purpose of visit, party composition, age and annual income. One-way repeated measures ANOVA (one-way RMANOVA) has been employed to complete the analysis.

The motivation for choosing the one-way RMANOVA was threefold:

- the intent of the analysis was to investigate the significance of the day to day variance in expenditure made by the same subjects (tourists);
- the dependent variable was continuous and the log transformation leaded to a normal distribution; and
- the independent variable had at least three levels (holiday-makers stayed for at least 3 days).

Preliminary analyses have been conducted to ensure that all assumptions of one-way RMANOVA are met. These assumptions refer to the level of measurement, random
sampling\textsuperscript{65}, independence of observations\textsuperscript{66}, normality\textsuperscript{67} and sphericity\textsuperscript{68}. Whilst the technique might be quite robust to violation of normality or random samples, the sphericity assumption is critical, thus it was treated with increased attention.

This assumption has been tested through the Mauchly’s test, which is part of the one-way RMANOVA output. A significant result (p < 0.05) indicates the violation of sphericity hypothesis. However, if data violates this assumption, there are several corrections (Greenhouse-Geisser correction, Huynh-Feldt correction) that can be applied to produce a valid F-ratio. In case of data lacking sphericity the Greenhouse-Geisser correction has been applied and the results are reported at 0.05 level of significance.

**Day-to-day Variation of Expenditure by Purpose of Visit**

The cohort analysis discussed in the previous chapter showed that tourists travelling for different purposes have different spending patterns. The following conclusions arose from the analysis:

- the distribution of the budget among different spending categories varies from cohort to cohort;
- the level of expenditure is also different with business tourists spending the most in terms of expenditure per person per day; and
- different source-demographic and trip related characteristics have different impacts on spending for each cohort.

The following analysis aims to investigate the differences in the spending behaviour according to purpose of visit, by analyzing the day-to-day variation in expenditure per person.

\textsuperscript{65} The data was obtained using a random sample from the population. More information is provided in the description of the diary survey.

\textsuperscript{66} The observations are independent of one another, each individual filling in a single diary.

\textsuperscript{67} Normality has been checked through the examination of the histograms and using the Shaper-Wilk tests.

\textsuperscript{68} Sphericity is the property that the degree of interaction between any two different levels of the independent variable is the same. Violation of sphericity generally leads to inflated F statistics.
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The following graphs depict the trajectory of daily per person expenditure for each cohort, for different lengths of stay. Since the sample size for some of the sub-groups is very small, the graphs include only the trajectories that are based on at least five observations.

Graph 7.4 depicts the expenditure trajectory over the days of the stay of tourists visiting their friends or relatives.

Graph 7-4: VFR Sample: Day-to-Day Variation of Spending Per Capita

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
<th>D7</th>
<th>D8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Day</td>
<td>64.75</td>
<td>16.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Days</td>
<td>60.47</td>
<td>93.22</td>
<td>26.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Days</td>
<td>31.73</td>
<td>59.34</td>
<td>80.72</td>
<td>22.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Days</td>
<td>52.92</td>
<td>85.48</td>
<td>85.63</td>
<td>62.38</td>
<td>34.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Days</td>
<td>34.49</td>
<td>46.13</td>
<td>42.94</td>
<td>51.79</td>
<td>51.73</td>
<td>24.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Days</td>
<td>40.83</td>
<td>43.65</td>
<td>41.27</td>
<td>56.36</td>
<td>52.94</td>
<td>44.08</td>
<td>24.39</td>
<td></td>
</tr>
<tr>
<td>7 Days</td>
<td>15.31</td>
<td>62.81</td>
<td>20.69</td>
<td>35.88</td>
<td>35.65</td>
<td>28.99</td>
<td>39.36</td>
<td>28.65</td>
</tr>
</tbody>
</table>

*Source: Primary Research*

**Findings:** It is evident from the graph that the general pattern emerging from the analysis of the variation of expenditure including the entire sample holds in the case of tourists visiting friends or relatives. Two trends are evident:

- the expenditure of tourists with a short length of stay (less than four nights) significantly increases in the first days of the stay followed by a decrease in the last days; and

- longer stays are associated with a more constant trajectory, the variations from one day to another being less sharp than in the case of short lengths of stay. The average coefficients of variation for short and longer durations of stay are very similar, 0.776 and 0.76, respectively.

**Statistical analysis:** One way repeated measures ANOVA has been applied in order to investigate the statistical significance of day-to-day variations in spending. A natural logarithm transformation has been applied to all expenditure variables in order to correct for the non-normal distribution. Preliminary analysis has been conducted in
order to ensure no violation of the assumptions required by the statistical method employed.

The results of ANOVA tests applied for short lengths of stay (2-4 nights) revealed a significant day-to-day variation in the level of spending. The post-hoc comparisons indicated that a statistically significant difference exists only between the expenditure occurred in either the first or last day when compared with the level of spending of other days. The results of one way repeated measures ANOVA applied for longer lengths of stay revealed no significant day-to-day variation in spending. These results validate the trends shown in Graph 4.

Graph 7.5 illustrates the spending behaviour over the days of stay of tourists visiting the region for holiday purposes.

**Graph 7-5: Holidaymakers Sample: Day-to-Day Variation of Spending Per Capita**

<table>
<thead>
<tr>
<th>Days</th>
<th>2 Nights</th>
<th>3 Nights</th>
<th>4 Nights</th>
<th>5 Nights</th>
<th>6 Nights</th>
<th>7 Nights</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>58.65</td>
<td>59.23</td>
<td>58.57</td>
<td>60.81</td>
<td>59.18</td>
<td>61.58</td>
</tr>
<tr>
<td>2</td>
<td>136.82</td>
<td>112.36</td>
<td>101.35</td>
<td>92.70</td>
<td>80.35</td>
<td>70.35</td>
</tr>
<tr>
<td>3</td>
<td>98.62</td>
<td>101.35</td>
<td>92.70</td>
<td>92.70</td>
<td>80.35</td>
<td>70.35</td>
</tr>
<tr>
<td>4</td>
<td>20.62</td>
<td>117.41</td>
<td>101.35</td>
<td>92.70</td>
<td>80.35</td>
<td>70.35</td>
</tr>
<tr>
<td>5</td>
<td>20.62</td>
<td>117.41</td>
<td>101.35</td>
<td>92.70</td>
<td>80.35</td>
<td>70.35</td>
</tr>
</tbody>
</table>

Source: Primary Research

**Findings:** Graph 7.5 shows that the general pattern described in the analysis of the entire sample holds in the case of holidaymakers. Two patterns can be visually observed:

1) short term holidaymakers (1-4 nights) exhibit an upward trajectory from the first day up to the second last day of stay, while
2) holidaymakers staying for more than 4 nights tend to have an almost constant consumption.

In both cases the graph indicates a significant decrease in the last day, which might be explained by an early departure or by a lack of accommodation expenditure.
Statistical analysis: The significance of the variations in a day-to-day basis has been analyzed by applying the one-way RMANOVA. The three one way RMANOVA applied to the expenditure of holiday-makers, staying for a maximum of four nights revealed a significant variation in the level of daily spending. It emerged from the post-hoc comparisons that expenditure in the first and last day differed significantly from expenditure of the other days.

Similar to VFRs’ expenditure, the results of one-way RMANOVA applied to longer durations of stay (5-7 nights) revealed no significant variation of expenditure on a day-to-day basis. The higher day-to-day variability of expenditure for short durations than for longer lengths of stay is confirmed by a higher average coefficient of variation for the former (0.51 versus 0.44).

Graph 7.6 presents the expenditure trajectory on a day-to-day basis of tourists travelling for business purpose.

Graph 7-6: Business Tourists: Day-to-Day Variation of Spending Per Capita

<table>
<thead>
<tr>
<th>Length of Stay</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Night</td>
<td>190.15</td>
<td>-42.41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Nights</td>
<td>143.67</td>
<td>175.87</td>
<td>45.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Nights</td>
<td>119.28</td>
<td>122.94</td>
<td>103.55</td>
<td>27.94</td>
<td></td>
</tr>
<tr>
<td>4 Nights</td>
<td>130.46</td>
<td>124.68</td>
<td>185.09</td>
<td>174.54</td>
<td>30.09</td>
</tr>
</tbody>
</table>

Source: Primary Research

Findings: Graph 7.6 shows that business tourists exhibit a slightly different consumption behaviour. Whilst the curves for either a one or two nights stay corroborate with the general pattern, the three nights stay is associated with an almost constant expenditure, until the departure day. Business tourists with a four nights stay exhibit an interesting spending behaviour; after two days with equal average expenditure, the graph shows a significant increase in the next two days followed by the usual decrease in the departure day.
Statistical Analysis: Similar to previous analyses, the significance of the day-to-day variation in expenditure has been analyzed by employing the one-way RMANOVA method; one model has been applied for each length of stay included in the analysis. The results revealed a significant day-to-day variation in expenditure for all durations of stay but three nights. This result validates the constant trajectory for the three nights stay.

The previous sub-sections investigated the spending behaviour of tourists travelling for different purposes of visit. The graphs/results indicated similar patterns for all cohorts and the results of one-way RMANOVA revealed that short lengths of stay are associated with a higher day-to-day variation of expenditure, while the expenditure trajectory for longer lengths of stay appears to exhibit a more constant expenditure pattern.

However, more tests needed to be conducted to investigate if the similarity in spending behaviour is statistically significant or it is due to chance. The following analysis employed a mixed model ANOVA to look at how purpose of visit affects or interacts with the day-to-day variation of expenditure. The research hypothesis is that there is a significant interaction effect, and the tourists exhibit different patterns over time depending the purpose of visit.

One mixed model ANOVA has been applied for each length of stay. For the same reasons previously discussed, only cases with a length of stay less or equal to seven nights have been included in the analysis. Preliminary analyses have been conducted to ensure no violation of the required assumptions. Since the sphericity assumption was not met for most of the models, the Greenhouse-Geisser correction has been applied and the results are reported at the corrected degrees of freedom.

All models revealed similar results. Although the between-subjects analysis\(^69\) revealed a significant effect of purpose of visit on the level of expenditure, the interaction effect between the time and the purpose of visit was not statistically significant in any of the models:

\(^69\) The between subject analysis refers to the analysis of the impact of purpose of visit on the level of expenditure (holidaymakers, VFRs, business tourists and tourists travelling for other purpose were compared on the level of spending per person per day).
This indicates that tourists travelling for different purposes do not experience a different spending pattern over time, although the level of expenditure significantly differs, with business tourists having the highest expenditure per-capita. These robust statistical results validate the patterns observed in the graphs.

**Day-To-Day Variation of Expenditure by Party Composition**

The analysis in the previous section indicates that tourists with different purpose of visit exhibit similar spending behaviour. Two trends emerged from the graphical illustration and were validated by the results one-way RMANOVA. Short-term tourists (1-4 nights) exhibit an upward trajectory from the first day up to the second last day of stay, while tourists staying for more than 4 nights tend to have an almost constant consumption. The following section investigates the spending behaviour of tourists travelling in different travel parties. The procedure is similar to the previous analysis: first the patterns will be described graphically followed by the application of one-way repeated measures ANOVA. The coefficient of variation will be also provided.

Graph 7.7 shows the expenditure trajectory over the days of the holiday of individual tourists.
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**Graph 7-7: Individual Travellers: Day-to-Day Variation of Spending**

![Day-to-day variation of individual travellers' expenditure](image)

**Findings:** It appears from the graph that the spending behaviour of individual tourists adheres to the general pattern previously discussed: the expenditure per person for short lengths of stay follows an ascending trajectory in the first half of the stay and decreases in the second half (bell shape or half of a bell); individual travellers staying for an increased length of stay (5 and 7 nights) tend to spend significantly less and the expenditure fluctuates between lower boundaries (no significant increase or decrease on a day-to-day basis). The average coefficients of variation for short and longer stay are 0.74 and 0.66 respectively.

**Statistical analysis:** One-way repeated measures ANOVA has been applied to complete the analysis. The results revealed a statistical significant day-to-day variation of expenditure for short visits and no significant variation for longer visits, being in accordance with the trends depicted in the graph.

Graph 7.8 depicts the expenditure variation on a day-to-day basis for tourists travelling with a companion.
Findings: It is evident that couples with a short length of stay (2-4 nights) exhibit similar spending behaviour to the general pattern established: the expenditure increases until the second last day of stay and drops significantly on the day of departure. Although some fluctuation from day to day can be noticed, in general, the pattern for long duration of stay previously discussed holds: the longer the length of stay the smoother (steadier) the expenditure curve, the seven nights graph indicating an almost constant trajectory. The average coefficient of variation ranged from 0.58 (2 nights stay) to 0.55 (7 nights stay).

Statistical analysis: The results of the one-way RMANOVA revealed a significant day-to-day variation in expenditure for short lengths of stay and non-significant variation for the long lengths of stay.

The spending behaviour of tourists travelling with their family is described in Graph 7.9.

Graph 7-9: Families: Day-to-Day Variation of Spending
**Findings:** The general pattern for tourists visiting the Shannon Region for less than four nights can be observed again: the expenditure trajectory follows a semi-bell shape with the increase in the first days and the significant drop in the day of departure. However, the pattern for longer length of stay appears to deviate from the general pattern previously discussed.

The trajectory resembles a two-wave-curve and this trend has already been observed for the four nights stay. The first wave corresponds to the first half of the trip and the second one to the last half and the shape indicates similar behaviour with the short duration of stay for each wave (although to a lower amplitude). The coefficients of variation for short and long lengths of stay are very similar, 0.63 and 0.64, respectively.

**Statistical analysis:** One-way RMANOVA has been applied to investigate the statistical significance of the day-to-day variation of expenditure. With only one exception- the seven nights stay- the results of the tests revealed a significant variation at the 0.05 level or better. However, the post-hoc tests showed a significant difference only between the expenditure on the day of departure and all other days.

Graph 7.10 illustrates the variation of the daily expenditure by tourists travelling with an adult party.

**Graph 7-10: Other Adult Parties: Day-to-Day Variation of Spending**

Source: Primary Research

**Findings:** The general pattern appears to hold again. For short lengths of stay the expenditure follows an ascending trajectory until the second last day of stay, while the longer lengths of stay are associated with a steadier evolution. There is a big difference
in the average coefficients of variation for short and long stays, 0.74 compared to 0.4, which confirms the more constant trajectory of expenditure for longer stays.

**Statistical analysis:** The results of the one-way RMANOVA revealed a significant variation of expenditure on a day-to-day basis for short lengths of stay and no significant variation for the seven nights stay.

The previous sub-sections focused on the analysis of spending behaviour of different travel-party cohorts. It appears that the general spending pattern holds for all groups. Further analysis is needed to statistically confirm the similarity of spending behaviour over time. Mixed within-between analyses of variation have been applied and the results are summarized in the following paragraph.

All models revealed similar results. The interaction effect between the time and the travel party was not statistically significant in any of the models:

- $F_{2\text{Nights}}[3.923, 60.156] = 0.958, p < 0.05$, partial eta-squared = 0.059
- $F_{3\text{Nights}}[6.531, 78.369] = 0.457, p < 0.05$, partial eta-squared = 0.037
- $F_{4\text{Nights}}[9.853, 157.644] = 1.041, p < 0.05$, partial eta-squared = 0.061
- $F_{5\text{Nights}}[7.858, 39.290] = 5.631, p < 0.06$, partial eta-squared = 0.108
- $F_{6\text{Nights}}[7.433, 17.343] = 1.178, p < 0.05$, partial eta-squared = 0.335
- $F_{7\text{Nights}}[11.490, 57.450] = 1.406, p < 0.05$

This indicates that tourists travelling in different parties do not experience a different spending pattern over time. These results validate the patterns emerging from the graphs above.

The previous two sections showed that neither purpose of visit nor travel party have an impact on the daily variation of expenditure. Although the level of expenditure significantly differs according to purpose of visit and travel party, all cohorts analyzed exhibited similar patterns over time. The following sections will investigate if socio-demographic characteristics have an impact on the expenditure trajectory over time. The socio-demographic factors analyzed were age, income and gender.
Day-To-Day Expenditure Variation by Age

The following section investigates the spending behaviour of different age cohorts. Four age-groups were considered for analysis: under 35 years, between 35 and 45 years, between 45 and 55 years and over 55 years old.

Graph 7.11 illustrates the spending behaviour of tourists aged 35 years or less.

Graph 7-11: Under 35 Years Old Cohort: Day-to-Day Variation of Spending

Findings: It appears from the graph that the previously described general pattern holds in the case of tourists aged 35 years or less. The two general trends are visible:

1) The expenditure of tourists with a short length of stay (less than four nights) increases in the first days of the stay and drops significantly on the day of departure; and

2) the graphs for longer lengths of stay indicate flatter trajectories, with no spectacular increases or decreases from day to day, except the drop on the day of departure which is to be expected.

The average coefficients of variation for short and longer durations of stay are very similar, 0.64 and 0.62, respectively.

Statistical analysis: One way repeated measures ANOVA has been applied in order to investigate the statistical significance of day-to-day variations in spending. A natural

70 the abolition of “duty free” between Ireland and the UK has been a contributory factor to the decline of last day expenditure.
logarithm transformation has been applied to all expenditure variables in order to correct for the non-normal distribution and the Greenhouse-Geisser correction has been used to correct for sphericity violations.

As for the previously discussed cohorts, the results of ANOVA tests applied for both short and long lengths of stay revealed a significant day-to-day variation in the level of spending. The post-hoc comparisons indicated that a statistically significant difference exists only between the expenditure on either the first or last day when compared with the level of spending for other days.

The same pattern is repeated for the other age-groups, hence Graph 12 – Graph 14 are not discussed in more detail.

Graph 7.12 illustrates the spending pattern over the days of the stay of tourists between 35 and 45 years.

**Graph 7-12: 35 - 45 Years Old Cohort: Day-to-Day Variation of Spending**

![](image)

Source: Primary Research

**Findings:** The results are similar to the previous cohort and show that the two general trends hold once again:

1) The expenditure of tourists with a short length of stay (less than four nights) increases in the first days of the stay and drops significantly on the day of departure; and

2) the graphs for longer lengths of stay indicate flatter trajectories, with no spectacular increases or decreases from day to day,
The average coefficients of variation for short and longer durations of stay are 0.72 and 0.60, respectively.

Graph 7.13 shows the spending behaviour over the days of the stay of tourists between 45 and 55 years.

**Graph 7-13: 45 - 55 Years Old Cohort: Day-to-Day Variation of Spending**

![Graph 7.13: 45 - 55 Years Old Cohort: Day-to-Day Variation of Spending](source)

**Findings:** The graph shows similar trajectories with the previous age cohorts analysed. The two general patterns are visible and the results of the One-Way ANOVA validated them. The graphs for shorter stays indicate an increase in spending until the second last day, followed by the drop on the day of departure, while the consumption associated with longer stays is more constant. The average coefficients of variation for short and longer durations of stay are 0.71 and 0.54, respectively.

Graph 7.14 illustrates the spending patterns over time of tourists 55 years or older.

**Graph 7-14: Over 55 Years Old Cohort: Day-to-Day Variation of Spending**

![Graph 7.14: Over 55 Years Old Cohort: Day-to-Day Variation of Spending](source)
Findings: The two general trends are evident once again. Those tourists staying for up to 4 nights tend to increase their spending until the second last day, while those staying for more than 4 nights tend to have a more constant consumption. The average coefficients of variation for short and longer durations of stay are 0.59 and 0.65, respectively.

Statistical analysis: The results of ANOVA tests applied to short lengths of stay revealed a significant day-to-day variation in the level of spending, while for long lengths of stay the results indicated no statistical significant variation. These results are interesting since one would expect (a priori) a significant difference especially in the case of six nights stay. This implies that the wavy shape of the graph might be induced by one case. This finding would need further analysis with a bigger sample.

The results summarized in the previous sub-sections indicate that tourists with different ages tend to exhibit the same spending pattern over time. The two general patterns outlined in the first section of the current chapter appeared graphically to hold for all age cohorts.

Further analysis is needed to statistically confirm the similarity of spending behaviour of tourists of different ages. Mixed within-between analyses of variation have been applied and the results are summarized in the following paragraph. Since the normality assumption has been violated, a natural logarithm has been applied to all expenditure variables. In addition, the Greenhouse-Geisser correction has been used to correct for the sphericity violation. Hence all results are reported at the adjusted degrees of freedom.

Six mixed within-between ANOVA models have been applied; one for each length of stay and all revealed similar results. The interaction effect between the time and the age was not statistically significant in any of the models:

- $F_{\text{2Nights}}[4.165, 69.423] = 0.944, p < 0.05, \text{partial eta-squared} = 0.054$
- $F_{\text{3Nights}}[7.300, 133.828] = 0.767, p < 0.05, \text{partial eta-squared} = 0.040$
- $F_{\text{4Nights}}[8.553, 168.206] = 1.563, p < 0.05, \text{partial eta-squared} = 0.074$
- $F_{\text{5Nights}}[7.141, 59.505] = 0.385, p < 0.06, \text{partial eta-squared} = 0.044$
Chapter 7  
Analysis of Day-to-Day and Geographical Spending Patterns

- $F_{6\text{Nights}}[9.877, 36.216] = 0.715, p < 0.05, \text{partial eta-squared} = 0.163$
- $F_{7\text{Nights}}[9.285, 64.997] = 0.826, p < 0.05, \text{partial eta-squared} = 0.106$

This indicates that all tourists, regardless their age, exhibit a similar spending pattern over time. These results validate the patterns previously observed in the discussion of the graphs.

Day-To-Day Spending Behaviour by Gender

According to Marhment (1997, cited in Wang et al, 2006), the travel market, unlike markets for so many other goods, is not constructed along gender lines. However, in Chapter 4 it was shown that gender could have mixed effects on the level of tourist expenditure.

Although the holidaymakers’ expenditure was not sensitive to gender, it emerged that gender significantly affects business tourists’ expenditure with men spending significantly more than their female counterparts. While many studies investigated the impact of gender on the level of tourist expenditure as part of the analysis of spending determinants, there is no study to date investigating the spending behaviour of male and female tourists over time. The following section aims to close this gap by providing an in-depth analysis of the day-to-day variation of expenditure for the two gender cohorts.

Graph 7.15 illustrates the spending behaviour over the days of the stay of male tourists.

Graph 7-15: Male$^{71}$ Tourists: Day-To-Day Variation of Spending

![Day-to-day spending behavior of male tourists](image)

Source: Primary Research

$^{71}$ Male refers to the gender of the person who filled in the diary
Findings: The shape of the graphs indicates that the expenditure trajectory for male tourists adheres to the general pattern. Two trends are once again evident: 1) tourists staying for 4 nights or less tend to increase their expenditure until the second last day and significantly reduce their spending on the day of departure; and 2) tourists with a duration of stay in the region of 5 nights or more tend to exhibit a more constant spending pattern.

Statistical analysis: The one-way repeated measures ANOVA has been applied to investigate the statistical significance of the variation of expenditure on a day-to-day basis. One test has been applied for each length of stay. ANOVA’s results for short lengths of stay revealed a significant day-to-day variation on expenditure. However, the post-hoc comparisons showed that the expenditure on the day of departure is significantly lower. For longer lengths of stay, the results of ANOVA indicated no significant variation on spending over time.

Graph 7.16 illustrates the day-to-day expenditure trajectory of female tourists visiting the Shannon Region.

Graph 7-16: Female\textsuperscript{72} Tourists: Day-to-Day Variation of Spending

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{day_to_day_spending_females.png}
\caption{Day-to-day spending behavior of female tourists}
\end{figure}

Source: Primary Research

Findings: It appears from the graph that the spending behaviour of female tourists does not divert from the general pattern. The two trends previously discussed are evident: 1) the expenditure of tourists staying for four nights or less increases in the firsts days and falls significantly on the day of departure; and 2) the graphs for longer lengths of stay

\textsuperscript{72} Female refers to the gender of person who filled in the diary
indicate a flatter trajectory. The coefficients of variation for the short and long durations of stay are 0.71 and 0.62, respectively.

Statistical analysis: One way repeated measures ANOVA has been applied in order to investigate the statistical significance of day-to-day variation in spending. A natural logarithm transformation has been applied to all expenditure variables in order to correct for the non normal distribution and the Greenhouse-Geisser correction has been used to correct for the sphericity violation.

Six out of the seven ANOVA models revealed a significant day-to-day variation on the level of expenditure. The post-hoc comparisons for longer lengths of stay showed only one or two significant variations. For example, in the case of a seven nights stay the significant difference occurs between the second (where the graph indicates a slight increase) and the last day where the spending considerably falls. If the last day is not included in the analysis the results of ANOVA indicate no significant variation.

From the graphical representation it appears that male and female tourists exhibit similar spending behaviour over time and even more importantly they seem to adhere to the general pattern. The following analysis aims to investigate the statistical significance of the differences in spending behaviour. One mixed within-between analyses of variation has been applied for each length of stay. Since the normality assumption has been violated, a natural logarithm has been applied to all expenditure variables. In addition, the Greenhouse-Geisser correction has been used to correct for the sphericity violation. Hence all results are reported at the adjusted degrees of freedom.

The results of the six analyses revealed that the interaction effect between the time and the gender was not statistically significant in any of the models:

- $F_{2\text{Nights}}[1.347, 71.390] = 0.276, \ p < 0.05, \ \text{partial eta}-\text{squared} = 0.005$
- $F_{3\text{Nights}}[2.460, 140.238] = 0.186, \ p < 0.05, \ \text{partial eta}-\text{squared} = 0.003$
- $F_{4\text{Nights}}[2.912, 180.530] = 0.764, \ p < 0.05, \ \text{partial eta}-\text{squared} = 0.012$
- $F_{5\text{Nights}}[2.448, 66.093] = 0.864, \ p < 0.05, \ \text{partial eta}-\text{squared} = 0.031$
- $F_{6\text{Nights}}[3.045, 39.586] = 1.160, \ p < 0.05, \ \text{partial eta}-\text{squared} = 0.082$
- $F_{7\text{Nights}}[3.345, 76.944] = 0.567, \ p < 0.05, \ \text{partial eta}-\text{squared} = 0.024$
This indicates that all tourists, regardless of gender, exhibit similar spending patterns during visitation. These results validate the patterns previously described in a graphical manner.

**Day-To-Day Spending Behaviour by Income**

Income is an essential factor in determining the demand for tourism commodities. Most of the previous studies investigating the determinants of tourist expenditure indicated a positive correlation between income and the level of spending while on visit, more income enabling tourists to spend more (Fish and Waggle, 1996; Mudambi and Baum, 1997; Agarwal and Yochum, 1999; Cannon and Ford, 2002; Jang et al, 2004; Wang et al, 2006).

A review of the available literature spanning three decades reveals that no published study has examined daily spending patterns by income group. The only piece of information we know is that higher income is associated with higher expenditure. But does spending behaviour over the days of a visit for higher earners differ from other groups? The following section aims to answer this question by providing an in-depth analysis of the day-to-day spending behaviour of tourists with different income levels who visited the Shannon Regions.

Graph 7.17 illustrates the spending behaviour over the days of the holiday of low-income tourists.\(^{73}\)

**Graph 7-17: Low Income Cohort: Day-to-Day Variation of Spending**

---

\(^{73}\) Low income is defined as annual income lower than 15,000 GBP.
Findings: It is evident from the graph that the general pattern for short lengths of stay holds. The expenditure increases until the second day of the stay and drops considerably on the day of departure. For longer stays the graph depicts more daily variations in expenditure than the general pattern previously defined.

The significant increase in expenditure on the third day is the most remarkable deviation from the general pattern. A more detailed analysis of the expenditure indicates that the increase in the third day is due to a significant increase in shopping expenditure. However, no generalization can be made since the sample size is too small. The coefficients of variation for the short and long lengths of stay are 0.7 and 0.56, respectively.

Statistical analysis: One-way repeated measure ANOVA has been employed to investigate the day-to-day variation on expenditure for each length of stay. The results revealed a significant variation on level of spending on a day-to-day basis only for four and five night lengths of stay. These results are in contrast to the findings that emerged from the previous analyses.

The spending behaviour over the days of the holiday of tourists earning medium\textsuperscript{74} annual incomes is shown in Graph 7.18.

Graph 7-18: Medium Income Cohort: Day-to-Day Variation of Spending

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{medium_income_graph.png}
\caption{Day-to-day spending behaviour of medium income earners}
\end{figure}

Findings: This graph shows a complete adherence to what has emerged as a general pattern. The two trends are evident:

\textsuperscript{74} Medium income is defined as annual income between 15,001 GBP and 45,000 GBP
1) The expenditure for short durations of stay (1-4 nights) follows an ascending curve in the first days and falls significantly on the day of departure, and

2) longer lengths of stay are associated with a flatter trajectory.

The coefficients of variation for the two groups (short and long stays) are 0.63 and 0.6, respectively.

Statistical analysis: The one-way repeated measures ANOVA has been applied to investigate the statistical significance of the variation of expenditure on a day-to-day basis. One test has been applied for each length of stay. ANOVA’s results for short lengths of stay revealed a significant day-to-day variation on expenditure. As expected, post-hoc comparisons showed that the expenditure on the day of departure is significantly lower. For the longer lengths of stay, the results of ANOVA were mixed indicating no significant variation on spending over time for six nights and significant variation for five and seven night stays. If the day of departure is removed from the analysis the results reveal no significant variation from one day to another.

Graph 7.19 presents the day-to-day expenditure variation of high-income tourists.

Graph 7-19: High-Income Cohort: Day-to-Day Variation of Spending

Source: Primary Research

Findings: It appears from the graph that the spending behaviour of high-income tourists does not significantly divert from the general pattern. Once again the expenditure for short lengths of stay follows an ascending curve, while for longer stays it appears to be more constant. It is interesting to learn that although the curves for three

75 High income is defined as the annual income higher than 45,000 GBP
and four days length of stay show an ascending trajectory, the increase is not significant. The coefficients of variation for short and longer stays are 0.68 and 0.65, respectively.

**Statistical analysis:** The one-way repeated measures ANOVA has been applied to investigate the statistical significance of the variation of expenditure on a day-to-day basis. One test has been applied for each length of stay. The results revealed a significant variation on the level of expenditure on all the models. Again, post hoc comparisons showed a significant difference only between the expenditure on the day of departure and the expenditure occurred in other days. If the last day of stay is removed from the analysis, ANOVA reveals a non-significant variation on the level of expenditure from one day to another.

Further analysis is needed to statistically confirm the similarity of spending behaviour of low, medium and high-income tourists over time. Mixed within-between analyses of variation have been applied and the results are summarized in the following paragraph. Since normality assumption has been violated, a natural logarithm has been applied to all expenditure variables. In addition, the Greenhouse-Geisser correction has been used to correct for the sphericity violation. Hence all results are reported at the adjusted degrees of freedom.

Four mixed within-between ANOVA models have been applied; one for each length of stay and all revealed similar results. The interaction effect between the time and the age was not statistically significant in any of the models:

- \( F_{2\text{Nights}}[2.701, 64.818] = 0.552, p < 0.05, \text{partial eta-squared} = 0.023 \)
- \( F_{3\text{Nights}}[4.938, 138.276] = 0.763, p < 0.05, \text{partial eta-squared} = 0.027 \)
- \( F_{4\text{Nights}}[6.391, 194.932] = 0.842, p < 0.05, \text{partial eta-squared} = 0.027 \)
- \( F_{5\text{Nights}}[4.918, 59.017] = 0.917, p < 0.05, \text{partial eta-squared} = 0.071 \)

This indicates that all tourists, regardless of their income, experience similar spending patterns over the days of stay. These results validate the patterns previously described in a graphical manner.
Another important feature of the diary questionnaire is the ability to track the expenditure by recording the location where most of the spending occurs. The next section will provide an analysis of the geographical trajectory of expenditure.

7.2 Geographic Trajectories of Visitors

One of the major problems facing local tourism planning and marketing officials is the absence of adequate and reliable local data. Most national tourism data is not disaggregated to a local scale, hence most of the decisions at individual destination areas are often based on inappropriate numbers. One of the major advantages of adopting a diary approach over the traditional methodologies for expenditure data collection is the diary’s ability to provide a detailed understanding of the consumption patterns and the geographic spread of activity over the days of the holiday, from arrival to departure. Accurate data about regional spread of tourism expenditure can lead to a better measurement or estimation of the importance of tourism for each region and it may have a significant implication for the marketing strategies and management plans at a regional level.

The following section focuses on the investigation of the mobility of British tourists throughout the Shannon Region and provides an analysis of the expenditure associated with every location visited. The general intention is to demonstrate the usefulness of the diary approach and as such the particular location adopted may have significant and generic application on a wider scale.

7.2.1 Background

According to Leiper (1995), tourist movements are considered by economists as a starting point for the provision of services. Research into spatio-temporal movement of tourists has a long history dating back to the 1930’s (Xia, 2007, PhD Thesis). One of the earliest studies in the topic was initiated by Ogilvie (1933) who established methods for measuring the external movement, length of stay and expenditure of tourists based on their movements. According to Lew and McKercher (2006), understanding the temporal and spatial movement of tourists and the influencing factors has major implications for product, infrastructure and transport development. City councils have a strong interest in evaluating behaviour of tourists to avoid misallocation of scarce resources while tourism providers need to locate tourists in order to offer appropriate services and
market them more effectively (Hagen et al, 2005). The rapid development of technology in recent years has enabled the potential deployment of new mechanisms to identify the exact location of tourists.

According to Girardin et al (2008), there has been a shift from using the traditional travel diaries, paper and pencil interview or computer-assisted interviews to applying automatic methods for collecting mobility data. Geographic Information System (GIS), Global Positioning Systems (GPS) or more recently the use of different applications for mobile phones have become popular in investigating tourist movement patterns. However, these approaches might be successful in providing an insight into the travel behaviour of tourists, but they give no information on the tourism expenditure. While knowing the number of tourists that visit an area or an attraction is beneficial from a planning perspective, information related to spending in the region is even more valuable since tourism marketers are interested in attracting tourists who spend money and not only time in their premises/areas.

Although there is some scant literature on the topic of tourist flow or intra-destination movements, there is an absence of research into the analysis of expenditure patterns associated with these intra-destination visits. The vital requirement to provide tourism statistics at a regional level has been stressed in a submission to the Tourism Policy Review Group (2004) in Ireland. According to the authors, the provision of statistics on a regional and county resolution would enable organisations to plan more readily for their area. Most of the local statistics are derived from national tourist surveys concerned with gathering aggregate figures. The adequacy of this data is questionable since the local needs vary from place to place. In general, the national datasets provide information for relatively large regions while the decisions are more likely to be made at a local level (Carson et al, 2007).

Accommodation surveys or interviews conducted at entry or exit points are common methods to collect local expenditure data. However, most of these surveys collect aggregate figures by means of recall methods and fail to capture the tourists’ frequent movements during the visit, hence the data mostly refer to the area where tourists were accommodated. In addition, these methods proved to be inappropriate on many
occasions since a complete coverage of all accommodation establishments or entry and exist points is almost impossible or extremely expensive.

Many tourists visit more than one location. Based on mobility patterns, tourists can be categorised in two groups: 1) tourists who stay overnight at the same location (camp-base) but during the day they visit other places; and 2) tourists who prefer to allocate a certain amount of time to completely explore an area and afterwards they move to a different location (accommodation taken in 2 or more locations).

Allocating the expenditure to the location where the consumption happened might appear to be a challenge especially when aggregate figures for the entire trip are gathered through a recall-based method. Although atypical for national surveys, one could require respondents to break down their expenditure by location. However, the accuracy of data related to locations visited depends on the memory of tourists. The less time between visiting a location and recording same in the questionnaire or interview, the more accurate the data will be.

One major benefit of the diary method is that by recording the location to which most of the daily expenditure is attributable allows not only for the analysis of tourist movement at an intra-destination level but also allows for the analysis of the geographical distribution of spending. In addition, even if the diary instrument is adopted in a survey at the national level (the diaries are distributed at the main entry and exist points in the country), it provides fine granularity data at a local level as well by indicating in a daily basis the location visited.

7.2.2 Geographical Output

A diary questionnaire is a very useful instrument for regional data collection. By recording the places visited each the day, the diary allows an insight into per capita per diem expenditure by location as well as the tourist’s propensity to visit more then one location. Information, such as the most popular visited location, per capita per diem expenditure for each location, number of days spent at each place as well as the breakdown of expenditure by spending category (which can vary from one location to another one) are critical from a marketing perspective.
The aim of the following subsections is to provide an analysis of the intra-destination mobility of British tourists arriving at Shannon Airport. Chi-square test and binary regression analysis have been applied to investigate the factors that influence the propensity to visit more than one location during the trip to Ireland. The average expenditure associated to each location visited will be also analysed. As the specification of the location for every day of the trip is crucial for this purpose, those diaries with incomplete data regarding the location where most of the daily expenditure is attributable were discarded, giving a total number of 164 valid responses.

### 7.2.2.1 Distribution of Days Among Most Popular Location Visited

One important feature of the diary questionnaire is the possibility to provide the location for every day of stay. Hence all tourists’ movements can be tracked and allocated to the County visited which is of major importance for local tourism marketeers. Table 7.1 shows the distribution of days by each location visited.

*Table 7-1: Distribution of Days by Location Visited*

<table>
<thead>
<tr>
<th>Location</th>
<th>No. of days</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clare</td>
<td>327</td>
<td>37.10</td>
</tr>
<tr>
<td>Limerick</td>
<td>190</td>
<td>21.60</td>
</tr>
<tr>
<td>Kerry</td>
<td>121</td>
<td>13.70</td>
</tr>
<tr>
<td>Galway</td>
<td>113</td>
<td>12.80</td>
</tr>
<tr>
<td>Cork</td>
<td>30</td>
<td>3.40</td>
</tr>
<tr>
<td>Mayo</td>
<td>27</td>
<td>3.10</td>
</tr>
<tr>
<td>Tipperary</td>
<td>22</td>
<td>2.50</td>
</tr>
<tr>
<td>Dublin</td>
<td>14</td>
<td>1.60</td>
</tr>
<tr>
<td>Offaly</td>
<td>11</td>
<td>1.20</td>
</tr>
<tr>
<td>Waterford</td>
<td>7</td>
<td>0.80</td>
</tr>
<tr>
<td>Kilkenny</td>
<td>6</td>
<td>0.70</td>
</tr>
<tr>
<td>Westmeath</td>
<td>5</td>
<td>0.60</td>
</tr>
<tr>
<td>Wexford</td>
<td>3</td>
<td>0.30</td>
</tr>
<tr>
<td>Wicklow</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>Sligo</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>Kildare</td>
<td>1</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Source: Primary Research
Table 7.1 presents the locations where British tourists spent their time while visiting the region. The results show that County Clare is the most popular destination: over 37 per cent of the total number of days have been spent in the County. The second most popular destination is County Limerick, accounting for 21 per cent of total days and the third in significance is County Kerry with a share of almost 14 per cent of the days closely followed by County Galway which accounts for 13 per cent of the days spent in the region.

### 7.2.2.2 Spatial Patterns: Multidestinations vs Singledestination Visits

According to Tideswell and Faulkner (1999), tourists frequently undertake multidestination trips for various reasons, e.g. 1) to satisfy the variety of needs and wants of different members of the same travel group; 2) multiple-benefit seeking which reflect situations where multiple destinations better satisfy the desire for variety in the travel experience; 3) to reduce the risk and uncertainty associated with the travel investment in a single destination; 4) to satisfy the desire to cover as many places as possible in the itinerary to justify the cost of the trip. The authors stress that a more detailed understanding of the geographical pattern of the trips contributes to destination marketing by “enabling identification of potential multidestination marketing synergies” (p.364). This would provide (for individual destinations lacking the adequate mass of attractions) a foundation for leveraging strategies. Similarly, Lue at al (1993, cited in Hwang and Fesenmaier, 2003) argued that information on the geographical trajectories of tourists would help regional marketing organisations develop programs that pack together various destinations into scenic routes based on the complementary strengths of the respective destinations.

According to Bowden (2003) the geographical patterns of tourists are not random, but are linked to visitor characteristics like nationality, socioeconomic profile and other trip-related characteristics. Studies like Opperman (1995) and Tideswell and Faulkner (1999) have examined the different multi-destination trip characteristics of international visitors to Malaysia and Queensland, respectively. The author could not locate any studies investigating the tourist travel pattern within a destination in Ireland. The following analysis aims to close this gap and to contribute to a better understanding of

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76 The high proportion of days spent in County Clare might be partially due to a high number of tourists spending the last day in the neighbourhood of Shannon Airport which is located in County Clare
tourist behaviour, by investigating the factors that affect the likelihood of a tourist taking a single or multi-destination trip.

*Table 7-2: Multi-destination vs Single Destination Visits*

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-destinations</td>
<td>78</td>
<td>47.60</td>
</tr>
<tr>
<td>Single-destination</td>
<td>86</td>
<td>52.40</td>
</tr>
<tr>
<td>Total</td>
<td>164</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Primary Research

Table 7.2 shows the percentage of tourists who were on a multi-destination visit compared to those who limited their trip to a single location. If the tourist visited more than one County, the visit is counted as a multi-destination trip. The figures indicate that a significant 48 per cent of the respondents showed some kind of mobility, visiting at least two locations (counties) during their stay in Ireland while 52 per cent were more static, exploring a single county.

*Table 7-3: Mobility by Purpose of Visit*

<table>
<thead>
<tr>
<th>Type of trip £££££$</th>
<th>VFR</th>
<th>Business</th>
<th>Holiday</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
</tr>
<tr>
<td>MD</td>
<td>23</td>
<td>39.0</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>SD</td>
<td>36</td>
<td>61.0</td>
<td>22</td>
<td>91.7</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>100.0</td>
<td>24</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Research

Table 7.3 represents a crosstabulation between the main purpose of visit and the mobility variable expressed as a multiple- or single-destination trip. A chi-square test for independence indicated a significant association between mobility and main purpose of visit. ($c^2 (3, n=164) = 32.7, p < 0.001, \text{Cramer’s } V^78 = 0.48$). Holidaymakers are the cohort with the higher mobility: 71 per cent of travel parties visited more than one

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£££££$ MD= Multi-destination trip; SD=Single-destination trip

78 Cramer’s V is an effect size statistic available in the Crosstabs procedure. For a 2x4 crosstabulation, a value of 0.1 indicates a small effect, a value of 0.3 a medium effect and a value of 0.5 shows a large effect (Pallant, 2007).
region, followed by VFRs and tourists visiting the region for “other” purposes with 39 and 33 per cent of the respondents reporting multiple places visited. As expected, business tourists are less likely to visit other places given the more restricted nature of business travel (more than 90 per cent of these tourists spent their the time at a single location).

The results are in line with the findings of Oppermann (1992) and Tideswell and Faulkner (1999) who noted that holidaymakers are more likely to visit a higher number of destinations during the same itinerary. The study of Tideswell and Faulkner (1999) also revealed that business tourists exhibited less active spatial behaviour, their itinerary proved to be more regionally focused and confined to the area where the business or conference venue was located. Similar results related to the limited mobility of business and VFR tourists have been found in a study by Oppermann (1995) who showed that international tourists to Malaysia who stated business or VFR as the main purpose of visit were mostly visiting only a single destination.

Table 7.4 shows the percentage of tourists who were on a single or multiple-destination trip by party composition.

Table 7-4: Mobility by Travel Party

<table>
<thead>
<tr>
<th>Trip</th>
<th>Party composition</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Travelling alone</td>
<td></td>
<td></td>
<td>Couple</td>
<td></td>
<td>Travelling with family</td>
<td></td>
<td>Other adult party</td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>Travelling alone</td>
<td>8</td>
<td>20.0</td>
<td>44</td>
<td>64.7</td>
<td>14</td>
<td>46.7</td>
<td>12</td>
<td>46.2</td>
</tr>
<tr>
<td>SD</td>
<td>Travelling alone</td>
<td>32</td>
<td>80.0</td>
<td>24</td>
<td>35.3</td>
<td>16</td>
<td>53.3</td>
<td>14</td>
<td>53.8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>40</td>
<td>100.0</td>
<td>68</td>
<td>100.0</td>
<td>30</td>
<td>100.0</td>
<td>26</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Research

As previously discussed, the heterogeneity of preferences of different members of the same travel party might influence the decision to undertake a multidestination trip.

Table 7.4 provides a comparison of the type of travel undertaken (single- versus multidestination travel) by party composition. A chi-square test of independence revealed a significant association with a medium effect size between travel party and
the type of trip ($\chi^2 (3, n=164) = 20.23, p < 0.001, \text{Cramer’s } V^{79} = 0.35$). It is evident from the table that tourists travelling with companions have a higher propensity to take a multidestination approach to travel. Almost 65 per cent of couples and 47 per cent of families or those tourists travelling with other adults visited more than one location during their stay in Ireland, while as little as 20 per cent of individuals showed that kind of mobility. A further investigation of the effect of the size of the party revealed that small groups (2 or 3 persons) indicated a stronger tendency towards undertaking a multidestination itinerary, while individuals and larger groups\textsuperscript{80} showed a preference for a more static approach, visiting a single location.

The results have strong support in the literature, studies like Oppermann (1992) and Tideswell and Faulkner (1999) suggesting that multidestination itineraries are more likely to be conducted by small travel parties.

Table 7-5: Mobility by Length of Stay

<table>
<thead>
<tr>
<th>Trip type</th>
<th>Length of stay</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3 Nights</td>
<td></td>
<td></td>
<td>4-6 Nights</td>
<td></td>
<td>7-9 Nights</td>
<td></td>
<td>&gt; 10 Nights</td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td></td>
<td>15</td>
<td>26.3</td>
<td>35</td>
<td>48.6</td>
<td>24</td>
<td>80.0</td>
<td>4</td>
<td>80.0</td>
</tr>
<tr>
<td>SD</td>
<td></td>
<td>42</td>
<td>73.7</td>
<td>37</td>
<td>51.4</td>
<td>6</td>
<td>20.0</td>
<td>1</td>
<td>20.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>57</td>
<td>100.0</td>
<td>72</td>
<td>100.0</td>
<td>30</td>
<td>100.0</td>
<td>5</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Research

According to Lau and McKercher (2006), time is a limited resource in the course of a trip and will either encourage or discourage the movement patterns of tourists. Table 7.5 provides a comparison of the type of travel undertaken by length of stay. A chi-square test of independence revealed a medium to strong association between time and the choice of the itinerary ($\chi^2 (3, n=164) = 25.55, p < 0.001, \text{Cramer’s } V^{81} = 0.4$). The

\textsuperscript{79} Cramer’s V is an effect size statistic available in the Crosstabs procedure. For a 2x4 crosstabulation, a value of 0.1 indicates a small effect, a value of 0.3 a medium effect and a value of 0.5 shows a large effect (Pallant, 2007).

\textsuperscript{80} 60 per cent of the two-person parties and 54 per cent of the three-person parties were on a multidestination itinerary while the percentage of larger parties was ranging from 46 to 33 per cent. However, the sample size for larger group is very small hence an increase in sample size would provide a more pertinent picture. Since a random sampling techniques has been adopted, and the number of larger parties was quite small, the researcher is inclined to believe that it is atypical for British tourists to travel in larger groups.

\textsuperscript{81} Cramer’s V is an effect size statistic available in the Crosstabs procedure. For a 2x4 crosstabulation, a value of 0.1 indicates a small effect, a value of 0.3 a medium effect and a value of 0.5 shows a large effect (Pallant, 2007).
results indicate that the longer the length of stay the higher the percentage of tourists undertaking multidestination travel. Tourists with a shorter stay tend to focus more on exploring the primary location (74 per cent of tourists staying for up to three nights showed no mobility).

Again, these results have strong support in the tourism literature, Oppermann (1997), Pearce (1995) and Lau and McKercher (2006) also found that tourists with a longer duration of stay at the destination are more likely to visit more places.

**Table 7-6: Mobility by Rental Car Service**

<table>
<thead>
<tr>
<th></th>
<th>No car rental</th>
<th>Car rented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple-destination</td>
<td>25</td>
<td>37.3</td>
</tr>
<tr>
<td>Single-destination</td>
<td>42</td>
<td>62.7</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Research

Citing Debbage (1991), Tideswell and Faulkner (1999) underlined that the spatial activity among visitors is linked with access to their own or rental transport, this type of transport offering the level of mobility and flexibility of movement that enables a greater diversity of locations to be visited. A chi-square test of independence (with Yates Continuity Correction) indicated a significant association between the type of travel undertaken and car rental ($\chi^2 (1, n=162) = 4.11, p < 0.05, \text{Phi} = 0.17$). However, the results revealed only a small effect size as indicated by the Phi value of 0.17. More than 50 per cent of tourists renting a car took a multidestination visit, while only 37 per cent of those who did not use the service visited more than one location. Again, the results support the previous research findings of Tideswell and Faulkner (1999) and Debbage (1991) which suggest that having a private or a rented vehicle (rented vehicles in the current research) increase the likelihood of multiple-destination trips.

**Mobility by Sociodemographic Characteristics**

The effects of the socio-demographic characteristics of respondents have also been investigated. However, the chi-square test of independence revealed no association between gender and age and the type of trip undertaken (single- or multiple-destination). The type of itinerary appeared to vary according to the annual income of
the chief earner ($\chi^2 (3, n=164) = 17.37, p < 0.01, \text{Cramer's } V^{82} = 0.33)$; tourists earning between 15,000 GBP and 25,000GBP and those with an income in the 55-65,000 GBP range showed a higher probability to take multi-destination travel. At a first sight this result might appear strange. Why would tourists with very low income and those with very high income exhibit similar mobility patterns?

Tideswell and Faulkner (1999) found, in their work investigating the multi-destination travel patterns, that one of the factors associated with multidestination phenomenon is the economic rationalism or the desire to fit as much into a travel itinerary as possible in order to justify the cost of the travel. According to the authors, the income of tourists provides “the most readily available surrogate measure” (p.366). Unfortunately the omission of any measure of income in their database made the assessment of the effect of income impossible and as such the viewpoint is conjecture.

Economic rationalization might be one of the explanations of the results revealed by the current analysis. On one hand, high income tourists are less constrained by the travel budget; hence they might increase their mobility while on the other hand, lower-income tourists might seek to fit as many places as possible in the itinerary to maximise the use of the money, time and other resources (Tideswell and Faulkner, 1999).

**Simultaneous Impact of Particular Factors on The Type of The Trip Undertaken - Binary Logistic Regression Analysis**

The previous subsections focused on investigating the individual relationships between different factors and the type of itinerary undertaken (single or multiple-destination), the results showing the existence of significant relations. To further the understanding of these relations, a binary logistic regression analysis has been conducted to investigate the relative contribution of the hypothesized influential factors to the likelihood of taking a single- or a multiple-destination visit. The following table summarises the variables included in the analysis.

---

82 Cramer’s V is an effect size statistic available in the Crosstabs procedure. For a 2x4 crosstabulation, a value of 0.1 indicates a small effect, a value of 0.3 a medium effect and a value of 0.5 shows a large effect (Pallant, 2007).
Table 7-7: Dependent and Independent Variables - Binary Logistic Regression

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td>Dichotomous variable taking value of 0 if tourists stayed at one destination and 1 if tourists showed some kind of mobility visiting more than one location (either staying overnight or having a day trip)</td>
</tr>
<tr>
<td>Mobility</td>
<td></td>
</tr>
<tr>
<td>Independent Variables</td>
<td></td>
</tr>
<tr>
<td>Purpose of visit</td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>Dummy variable taking value 1 if purpose of visit was Business and 0 otherwise;</td>
</tr>
<tr>
<td>Holiday</td>
<td>Dummy variable taking value 1 if purpose of visit was holiday and 0 otherwise;</td>
</tr>
<tr>
<td>Other purpose</td>
<td>Dummy variable taking value 1 if purpose of visit was “Other” and 0 otherwise;</td>
</tr>
<tr>
<td>Travel Party</td>
<td></td>
</tr>
<tr>
<td>Couples</td>
<td>Dummy variable taking value 1 if the respondent travelled with the partner, and 0 otherwise;</td>
</tr>
<tr>
<td>Families</td>
<td>Dummy variable taking value 1 if the respondent travelled with his/her family, and 0 otherwise;</td>
</tr>
<tr>
<td>Other adults</td>
<td>Dummy variable taking value 1 if the respondent travelled with other adults in party, and 0 otherwise;</td>
</tr>
<tr>
<td>Income</td>
<td></td>
</tr>
<tr>
<td>15,001 – 25,000 GBP</td>
<td>Dummy variable taking value 1 if income between 15,001 and 25,000 gbp; 0 otherwise;</td>
</tr>
<tr>
<td>25,001 – 35,000 GBP</td>
<td>Dummy variable taking value 1 if income between 25,001 and 35,000 gbp; 0 otherwise;</td>
</tr>
<tr>
<td>35,001 – 45,000 GBP</td>
<td>Dummy variable taking value 1 if income between 35,001 and 45,000 gbp; 0 otherwise;</td>
</tr>
<tr>
<td>45,001 – 55,000 GBP</td>
<td>Dummy variable taking value 1 if income between 45,001 and 55,000 gbp; 0 otherwise;</td>
</tr>
<tr>
<td>55,001 – 65,000 GBP</td>
<td>Dummy variable taking value 1 if income between 55,001 and 65,000 gbp; 0 otherwise;</td>
</tr>
<tr>
<td>&gt; 65,000 GBP</td>
<td>Dummy variable taking value 1 if income higher than 65,000 gbp; 0 otherwise;</td>
</tr>
<tr>
<td>Car_hire</td>
<td>Dichotomous variable taking value 1 if tourists indicated the use of a rented vehicle and 0 otherwise;</td>
</tr>
<tr>
<td>Length of stay</td>
<td>Continuous variable representing the total number of nights spent in Ireland during the trip;</td>
</tr>
<tr>
<td>Party_size</td>
<td>Continuous variable representing the total number of nights spent in Ireland during the trip;</td>
</tr>
</tbody>
</table>
persons in the travel group;

<table>
<thead>
<tr>
<th>Gender</th>
<th>Dichotomous variable taking value 1 if the respondent is a male and 0 if female;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td>Dummy variable taking value 1 if the age of respondent was between 25 and 35 years, and 0 otherwise;</td>
</tr>
<tr>
<td>25 – 35 years</td>
<td>Dummy variable taking value 1 if the age of respondent was between 25 and 35 years, and 0 otherwise;</td>
</tr>
<tr>
<td>35 – 45 years</td>
<td>Dummy variable taking value 1 if the age of respondent was between 35 and 45 years, and 0 otherwise;</td>
</tr>
<tr>
<td>45 – 55 years</td>
<td>Dummy variable taking value 1 if the age of respondent was between 45 and 55 years, and 0 otherwise;</td>
</tr>
<tr>
<td>55 – 65 years</td>
<td>Dummy variable taking value 1 if the age of respondent was between 55 and 65 years, and 0 otherwise;</td>
</tr>
<tr>
<td>&gt; 65 years</td>
<td>Dummy variable taking value 1 if respondent was older than 65 years;</td>
</tr>
</tbody>
</table>

The model contained six independent variables from which four were categorical, comprising two or more categories, and two were continuous. The categorical variables have been automatically dummy coded during the regression analysis. The overall model containing all predictor variables was statistically significant $\chi^2 (21, 157) = 76.11, p<0.001$, indicating that the model was able to distinguish between respondents who reported a multistitution visit and those visiting a single location. The model as a whole explained between 39 per cent (Cox and Snell R Square) and 52 per cent (Nagelkerke R square) of the variance in mobility and correctly classified 76.3 per cent of the cases. As showed in Table 7.8 only three predictors made a unique statistically significant contribution to the model (length of stay, purpose of visit and income). However, a fourth variable (party size) was approaching significance ($p=0.07$) hence can be considered a significant contributor.

*Table 7-8: Binary Logistic Regression Coefficients*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Wald</th>
<th>Df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel Party</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Couples</td>
<td>0.95</td>
<td>1.56</td>
<td>1</td>
<td>0.21</td>
<td>2.58</td>
</tr>
<tr>
<td>Families</td>
<td>1.15</td>
<td>1.30</td>
<td>1</td>
<td>0.25</td>
<td>3.15</td>
</tr>
<tr>
<td>Other adults</td>
<td>0.6</td>
<td>0.43</td>
<td>1</td>
<td>0.51</td>
<td>1.83</td>
</tr>
<tr>
<td>Purpose of visit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>-1.01</td>
<td>0.96</td>
<td>1</td>
<td>0.33</td>
<td>0.36</td>
</tr>
<tr>
<td>Holiday</td>
<td>1.21</td>
<td>4.99</td>
<td>1</td>
<td>0.03</td>
<td>3.37</td>
</tr>
</tbody>
</table>
### Chapter 7  
**Analysis of Day-to-Day and Geographical Spending Patterns**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Other</th>
<th>Rental car</th>
<th>Length of stay</th>
<th>Annual income</th>
<th>15,001 – 25,000 GBP</th>
<th>25,001 – 35,000 GBP</th>
<th>35,001 – 45,000 GBP</th>
<th>45,001 – 55,000 GBP</th>
<th>55,001 – 65,000 GBP</th>
<th>over 65,000 GBP</th>
<th>Party size</th>
<th>Gender</th>
<th>Age</th>
<th>Party size</th>
<th>Gender</th>
<th>Age</th>
<th>Constant</th>
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<tbody>
<tr>
<td>Other</td>
<td>-0.48</td>
<td>0.31</td>
<td>1</td>
<td>0.58</td>
<td>0.62</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Rental car</td>
<td>0.54</td>
<td>1.18</td>
<td>1</td>
<td>0.28</td>
<td>1.72</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Length of stay</td>
<td>0.40</td>
<td>10.64</td>
<td>1</td>
<td>0.00</td>
<td>1.49</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Annual income</td>
<td></td>
<td>14.64</td>
<td>6</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
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<td>15,001 – 25,000 GBP</td>
<td>1.06</td>
<td>1.78</td>
<td>1</td>
<td>0.18</td>
<td>2.88</td>
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</tr>
<tr>
<td>25,001 – 35,000 GBP</td>
<td>0.42</td>
<td>0.30</td>
<td>1</td>
<td>0.59</td>
<td>1.53</td>
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</tr>
<tr>
<td>35,001 – 45,000 GBP</td>
<td>-0.92</td>
<td>1.18</td>
<td>1</td>
<td>0.28</td>
<td>0.39</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>45,001 – 55,000 GBP</td>
<td>-0.33</td>
<td>0.10</td>
<td>1</td>
<td>0.75</td>
<td>0.72</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>55,001 – 65,000 GBP</td>
<td>2.90</td>
<td>5.08</td>
<td>1</td>
<td>0.02</td>
<td>18.22</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Over 65,000 GBP</td>
<td>-0.80</td>
<td>0.77</td>
<td>1</td>
<td>0.38</td>
<td>0.45</td>
<td></td>
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</tr>
<tr>
<td>Party size</td>
<td>-0.55</td>
<td>3.21</td>
<td>1</td>
<td>0.07</td>
<td>0.57</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-0.51</td>
<td>0.95</td>
<td>1</td>
<td>0.33</td>
<td>1.67</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>3.57</td>
<td>5</td>
<td>0.61</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>25 – 34 years</td>
<td>20.48</td>
<td>0</td>
<td>1</td>
<td>1.00</td>
<td>-</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>35 – 44 years</td>
<td>20.36</td>
<td>0</td>
<td>1</td>
<td>1.00</td>
<td>-</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>45 – 54 years</td>
<td>21.39</td>
<td>0</td>
<td>1</td>
<td>1.00</td>
<td>-</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>55 – 64 years</td>
<td>20.93</td>
<td>0</td>
<td>1</td>
<td>1.00</td>
<td>-</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Over 65 years</td>
<td>21.32</td>
<td>0</td>
<td>1</td>
<td>1.00</td>
<td>-</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Constant</td>
<td>-22.95</td>
<td>0</td>
<td>1</td>
<td>1.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Odd ratios\(^{83}\) have been used to assess the strength of each predictor. The strongest predictor of reporting a multi-destination trip appeared to be income, the dummy variable for the 45,001 – 55,000 GBP recording an odd ratio of 18. This indicates that tourists falling into this income bracket were 18 times more likely to report a multi-destination itinerary, controlling for other factors in the model. The second most significant factor is purpose of visit, with the holiday dummy variable recording an odds ratio of 3.3, indicating that holidaymakers are three time more likely to visit more destinations, all other factors being equal.

Similar results have been revealed in the study of Tideswell and Faulkner (1999) who found that business tourists and VFRs make fewer overnight stops. A direct comparison is difficult due to the different nature of the dependent variable in the two studies:

\(^{83}\) The odds ratio represents the change in odds of being in one of the categories of outcome when the value of the predictor increases by one unit (Tabachnuck and Fidell (2007))

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Tideswell and Faulkner (1999) test the number of stops whereas the current study is employing a dichotomous variable meant to identify the factors affecting the likelihood of taking a single- or a multiple-destination trip (regardless the number of stops). As showed in the table 7.7, length of stay is a significant predictor: an increase by one in the duration of the trip increases the likelihood for a multiple destination trip by 1.5. The negative sign of the regression coefficient for party size reinforce the idea that larger parties are more static. This result is backed up by the findings of Tideswell and Faulkner (1999).

### 7.2.2.3 Expenditure by Location

The assessment of the economic impact of tourism to a national economy is a common topic in the tourism literature. Aggregate data collected through the national surveys provide very vague clues about where and how the tourists allocate expenditure. One important aspect that is highly neglected is the geographical trajectory of spending. There is a lack of adequate information related to the spending behaviour of tourists visiting different locations. This arises because recall questionnaires cannot handle this level of detail.

Questions like “Do tourists who visit different places within a destination spend different amounts at different locations?” are often left without an answer. The following section aims to provide an expenditure analysis on local granularity of British Tourists arriving at Shannon Airport in order to gain some understanding of a possible relationship between expenditure and travel patterns.

Table 7.9 shows the average spending of tourists travelling for different purposes of visit by location, along with the share of total days spent at each location.
### Table 7-9: Expenditure per Capita by Purpose of Visit and by Location

<table>
<thead>
<tr>
<th>Location</th>
<th>VFR</th>
<th>Business</th>
<th>Holiday</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Days (%)</td>
<td>€</td>
<td>Days (%)</td>
<td>€</td>
</tr>
<tr>
<td>Clare</td>
<td>35.1</td>
<td>36.76</td>
<td>28.20</td>
<td>93.06</td>
</tr>
<tr>
<td>Limerick</td>
<td>29.80</td>
<td>55.78</td>
<td>57.70</td>
<td>108.30</td>
</tr>
<tr>
<td>Kerry</td>
<td>7.10</td>
<td>61.18</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Galway</td>
<td>10.80</td>
<td>49.87</td>
<td>2.60</td>
<td>173.05</td>
</tr>
<tr>
<td>Cork</td>
<td>2.50</td>
<td>96.37</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mayo</td>
<td>2.50</td>
<td>106.93</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tipperary</td>
<td>2.50</td>
<td>59.95</td>
<td>3.80</td>
<td>135.33</td>
</tr>
<tr>
<td>Dublin</td>
<td>1.80</td>
<td>79.18</td>
<td>5.10</td>
<td>120.58</td>
</tr>
<tr>
<td>Offaly</td>
<td>2.50</td>
<td>80.72</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Waterford</td>
<td>1.50</td>
<td>90.23</td>
<td>1.30</td>
<td>82.00</td>
</tr>
</tbody>
</table>

Source: Primary Research

County Clare accounts for more than 37 per cent of all the days while in terms of spending per person per day it attracts the smallest amount (€57.94). The considerably higher number of days spent in County Clare can be attributed to the fact that Shannon Airport is located in this County, hence most of the tourists spend their last day in the area. The same explanation is valid for the lower expenditure, tourists spending significantly less on the day of departure due to the lack of accommodation and early departure (hence the average expenditure for county Clare reflects the low expenditure occurred on the day of departure).

Limerick is the prominent destination for business and VFR tourists, accounting for over 57 and 30 per cent, respectively, of the total days spent by these cohorts in the region. Kerry and Galway are popular destinations among holidaymakers, accounting for 21 and 17 per cent of the total tourist days. These results suggest that tourists travelling for different purposes have different preferences in terms of places visited. A better understanding of the kind of tourists that visit each location would contribute to better planning and marketing efforts.

The expenditure data summarised in table 7.9 show considerable differences in spending according to the place visited and the purpose of visit. It appears that
expenditure tends to be higher the further away from the airport the places visited are located. When examining the mean values for daily per person spending of holidaymakers, it becomes clear that tourists visiting the main tourist centres like Kerry, Galway and Cork, spend more on average. This trend is even evident in the case of business tourists (who are more static and have less of a choice to choose the destination) who spend considerably more in counties like Galway or Tipperary than in less touristic destinations like Limerick city. A further breakdown of tourist expenditure by major commodity groups is provided in Table 7.10.

Table 7-10: Expenditure per Capita by Type of Spending and by Location

<table>
<thead>
<tr>
<th></th>
<th>Lodging</th>
<th>Shopping</th>
<th>Food &amp; Drinks</th>
<th>Transport</th>
<th>Sightseeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dublin</td>
<td>40%</td>
<td>8%</td>
<td>29%</td>
<td>20%</td>
<td>3%</td>
</tr>
<tr>
<td>Kerry</td>
<td>35%</td>
<td>12%</td>
<td>29%</td>
<td>20%</td>
<td>4%</td>
</tr>
<tr>
<td>Clare</td>
<td>37%</td>
<td>10%</td>
<td>26%</td>
<td>25%</td>
<td>2%</td>
</tr>
<tr>
<td>Galway</td>
<td>40%</td>
<td>11%</td>
<td>30%</td>
<td>17%</td>
<td>2%</td>
</tr>
<tr>
<td>Limerick</td>
<td>34%</td>
<td>12%</td>
<td>31%</td>
<td>21%</td>
<td>2%</td>
</tr>
<tr>
<td>Mayo</td>
<td>39%</td>
<td>15%</td>
<td>29%</td>
<td>16%</td>
<td>1%</td>
</tr>
<tr>
<td>Waterford</td>
<td>25%</td>
<td>30%</td>
<td>37%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Tipperary</td>
<td>27%</td>
<td>10%</td>
<td>41%</td>
<td>15%</td>
<td>7%</td>
</tr>
<tr>
<td>Offaly</td>
<td>27%</td>
<td>19%</td>
<td>23%</td>
<td>27%</td>
<td>4%</td>
</tr>
<tr>
<td>Cork</td>
<td>29%</td>
<td>13%</td>
<td>37%</td>
<td>20%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: Primary Research

Generally, the expenditure patterns for the most popular destinations are more or less what one would expect, with the accommodation and food and drinks categories attracting the biggest share of the daily budget. However, some of the regions show some particularities: Waterford, Offaly and Mayo appear to be preferred in terms of shopping destinations, attracting as much as 30, 19 and 15 per cent, respectively of the daily budget; tourists tend to spend more on food and drinks in Counties like Tipperary, Cork and Waterford and spend most on sightseeing and entertainment in Tipperary, Kerry and Offaly. The findings above should be treated with some caution as the sample size for some of the counties (see Table 7.9) are rather small.

It can be concluded that expenditure is related to travel patterns. However, a more complex analysis would be required to assess the exact relationships between different itineraries and the level of spending. Unfortunately, the small sample size does not allow for a more detailed analysis. The results provided by the current survey could be
considered as the first step in accumulating knowledge related to geographical flux and spending of tourists and provide a strong indication that future research in the area would be justified.

### 7.2.3 Limitations

One of the difficulties encountered in analysing the geographical distribution of expenditure was to distinguish between a base camp visit (i.e. one main destination with several day trips from there) and multiple overnight stops. The respondents were asked to specify the location where most of the daily expenditure was incurred. Accommodation expenditure usually represents an important share of the daily spending, hence in those cases where day trips were taken but the spending did not surpass the expenditure in the base camp the total expenditure is allocated to the main location. For future research a way to distribute the daily expenditure to different locations visited must be investigated. A change in the design of the questionnaire/diary to facilitate the linkage between multiple locations and the exact amount of money spent should be undertaken.

### 7.3 Summary

Based on the multi-day expenditure data sets gathered through the use of expenditure diaries, this section focused on examining the day-to-day variability in spending behaviour of tourists who arrived at Shannon Airport as well as the geographical trajectory of spending.

The results of this unique analysis showed that travellers exhibit similar spending behaviour regardless of socio-demographic or trip-related characteristics. While the pattern of expenditure applies generally, the expenditure level is significantly different for different cohorts. Additionally, it is an interesting observation that the level of day-to-day variability in spending behaviour and the shape of the expenditure trajectory are very comparable to that observed with a unique data set collected almost ten years ago.

Two general spending patterns emerged from the graphical illustration of the expenditure trajectories over the days of the stay and the statistical methods applied validated them.
1) Tourists visiting the region for at most four nights tend to increase their expenditure day by day until the second last day and significantly reduce the spending on the day of departure.

2) The expenditure of tourists staying for at least 5 nights at the destination is remarkably stable over the days of the visit.

The statistical analysis indicates a considerable day-to-day variability in spending behaviour of tourists staying for less than four nights and no significant variability for longer lengths of stay. After defining a general pattern, it was investigated whether the spending behaviour of different cohorts adheres to the general pattern or there are some particularities associated with different groups. The analysis revealed that tourists experience similar patterns over time regardless of age, gender, annual income, purpose for visit or their travel party structure.

Information related to geographical movements of tourists within a destination is essential for most of the players in the tourism industry:

- destination management uses this information to avoid misplacing the scarce resources and better allocate them where most needed;

- the same data is the basis for many decisions related to destination planning (i.e. infrastructure, development of new attractions);

- individual providers of tourism services can create more appropriate products and market them more efficiently (Lau and McKercher, 2006) or can explore opportunities for potential new sites (Lue et al, 1993).

According to Hwang and Fesenmaier (2003, p.170) “understanding single-destination and multideestination travel patterns offers a number of important practical managerial implications for destination marketing organisations”. The authors stressed that this knowledge enables destination-marketing organisations to identify the practical range of goods for their area and to identify those destinations or attractions that might be effective partners for building or extending the destination brand. Most of the regional statistics are derived from national surveys conducted on behalf of national tourism organisations which are mostly produced in aggregate form, such as total tourists
number and foreign exchange earnings, but not the spatial distribution of tourists and the way they spend their money and who benefits from it (Pearce, 1990 cited in Oppermann, 1995).

One of the purposes of the current chapter was to further the understanding of tourist behaviour by investigating geographical patterns and the expenditure associated. The geographical analysis has empirically shown several important patterns. The results of the analysis revealed that a significant fraction (48 per cent) of the respondents who specified the daily location visited more than one area during their trip to Ireland. The chi-square analysis of purpose of visit, travel party, length of stay and different socio-demographic characteristics of respondents with respect to mobility revealed significant differences among cohorts.

This results reinforce the importance of knowledge related to spatial tourist patterns since different cohorts bring different benefits to a destination. As Oppermann (1995, p.61) underlined in his study, single-destination visitors have an impact on only one area whereas multiple-destination tourists “distribute their spending over a wider geographical area and in a number of different economic sectors”.

The binary logistic regression analysis revealed that income, length of stay, purpose of visit and party size had a significant unique contribution in explaining the variation in mobility (undertaking a single of multیدestination itinerary). As regards expenditure, the results indicate that spending and travel patterns are related, different level of expenditure being observed for different locations and different cohorts. However further research should be conducted to investigate the exact relationships between different itineraries and expenditure.
CHAPTER 8: CONCLUSIONS

8.1 Introduction

Tourism is an important sector of the national economy in many countries around the world due to its economic and employment potential and its contribution to a more balanced spread of economic activity across regions, especially in areas with few alternative economic opportunities. Given this major and still growing contribution of tourism to overall economic activity, accurate statistics in tourism are more important than ever. Unfortunately, the available tourism statistics suffer because of many credibility issues and little research has been conducted to find ways to improve data quality. Apart from concerns about the accuracy of expenditure figures due to sub-optimal methods for gathering data, the aggregate nature of data and poor availability of reliable statistics at a local and regional level make the current statistical system an inadequate business tool, since it provides little insight into the market's behaviour.

The objective of the current research, as defined in Chapter 1, has been two-fold. The first goal was to investigate whether the diary method as a tool for data-collection will produce better quality data and can inform better decisions. The second objective was a more practical one: to apply the diary method in a case study of a real tourist market, to analyze the spending behaviour and investigate at the same time what innovative analyses are facilitated by the additional data provided by diaries. The British tourist market to the Shannon Region was chosen for the case study due to practical considerations, though the main findings may have wider implications for the collection and analysis of data in other regional and national markets. The case study strived to describe the relationship between the socioeconomic and demographic attributes of the incoming tourists and their touristic expenditure and consumption patterns. The fine granularity of data collected via the diary method allowed for the first time the investigation of variations in the expenditure over the days of the holiday as well as an analysis of the mobility of tourists and associated expenditure by geographic region.

The first objective of this work was achieved through the review of literature on the diary method and the primary research. The purpose of the literature review was to investigate the use and the results of the adoption of the diary approach in other disciplines in order to identify the advantages and limitations of the method. Once a
good understanding was achieved, the main concerns raised in other studies were addressed during the primary research stage (Chapter 4). The second objective has been achieved through the application of different statistical techniques on the data collected via the diary method (Chapter 6 and Chapter 7). The main determinants of the level of spending for different tourist cohorts were identified and the results can serve as a basis for market segmentation. Additionally, the analysis provided, for the first time, insights into the spending behaviour over the days of a holiday/trip and the geographic trajectory of tourism activity and the associated expenditure.

This chapter summarizes the most important findings from this research and discusses them in the context of the theoretical and empirical literature reviewed in earlier chapters. The implications of the results for both theory and practice in tourism are discussed and the main limitations of the research are outlined. Finally, the chapter will conclude with some potential avenues for future research on the topic.

8.2 Main Findings

This section aims to provide a summary of the main research findings. First, the steps taken to achieve the first goal will be outlined along with the conclusions that emerged from the investigation. Second, the main findings of the analysis on spending behaviour will be summarized.

8.2.1 First Objective: Assessment of The Diary Method as a Tourism Data Collection Method

There is no doubt that tourism can make a significant contribution to the economic progress of a country/region. However, the economic, social and environmental potential of this sector will only be realized if better evaluation and measurement becomes a priority. As previously discussed, tourism statistics are often subject to criticism and it has been articulated that relatively poor data was responsible for the little acclaim the tourism sector received in the past. To some extent, the credibility issues of tourism data arise from the quality of data sources, inappropriate sample sizes, the reliance on the recall method for data collection and other methodological issues affecting the precision, accuracy, validity and reliability of the collected data. It was often suggested that the adoption of the diary method would overcome some of the limitations associated with the traditional techniques. Unfortunately, despite evidence
for the superiority of the diary method in other areas, the approach has rarely been implemented in tourism so far, and if so only to a very limited extent, or in qualitative research.

This work has aimed to investigate if the adoption of the diary approach was suitable for the collection of tourism expenditure data on a larger scale, providing not only more accurate data but also a greater level of detail, impossible to achieve by applying the traditional methods. The first step in the investigation was to undertake a detailed literature review to learn about the advantages the method brings, possible issues and how to resolve them. Studies comparing the diary method with other data collection methods and their conclusions were analysed in great detail (see section 4.3.6).

Before presenting the main findings, a summary of the main criticism of traditional data collection methods is necessary, to highlight the rationale of the current investigation. An extensive literature review revealed that the main concerns surrounding tourism expenditure data are as follows:

- **The use of inadequate data collection methods.** Data is mostly gathered through the application of exit surveys, which rely on retrospective data, hence recall error can influence the accuracy of the estimates. It is a well known fact that memory decay associated with long-term memory weakens the validity of responses, increasing the likelihood of the error. Evidence from the literature indicates that spending under-estimation is the main source of errors (Wilton and Nickerson, 2006) and that even a small difference often perceived as minor between the real and the estimated spending can have a significant impact when tourism’s contribution is computed.

- **Data is available only in aggregate form.** Apart from concerns about the accuracy of the data collected, the traditional approaches fail to provide the level of detail required by the high variety of users as well as for the implementation of the TSA. Data is usually not detailed enough for a behavioural analysis and more often reflects national estimates than a local market. Different tourist markets need to be differentiated in many countries with a number of different tourism products such as maritime, coastal, rural, urban, etc. Hence, national estimates are probably of little value for regional marketing and decision-
making. Additionally, the traditional methods do not provide product and service expenditure breakdowns.

The adoption of the diary approach has been recommended on many occasions, but higher cost, logistical difficulties and the belief that the relatively low response rate makes the method prone to errors, have been the main factors preventing its adoption. However, there is strong evidence from other areas of research that the issues associated with the diary method are far less of a problem than the response biases associated with traditional methods.

A review of the relevant literature on the use of the diary method in different research areas revealed that the potential drawbacks associated with the application of diaries for data collection are the conditioning effect, low response rates, fatigue, higher level of commitment needed from the participants, and the danger that the diary might become a recall-questionnaire.

First, the data can suffer from what is called the conditioning effect. This refers to the effect that diary keeping might have on the behaviour and reporting patterns of the participants, when the diary is kept for longer periods of time. However, evidence from the literature, which is also backed up by the findings of this research, indicated that although the participants are aware of the monitored behaviour, the behaviour itself is not altered by the diary keeping. Second, one of the most frequently mentioned issues is a lower response rate than with other data collection methods, which in turn could lead to non-response bias. While this might be a serious cause for concern, evidence from the literature showed that this can be accounted for by applying some measures to increase the participation such as offering incentives or interacting with the participants during the process. A low response rate is not solely observed with the diary approach but is common to mailed-back surveys in general. It poses serious problems if there is a statistically significant difference between the respondents and non-respondents, leading to an unrepresentative sample. This research also included a non-response analysis, and no evidence of non-response bias has been identified. Third, filling out a diary every day can be a burden and requires a higher level of commitment compared to other types of surveys, especially when the diary is kept for a party and not only an individual. While fatigue might arise and lead to a decline of the number of records
after a few days, being aware of this issue can allow the researcher to take steps to avoid the consequences. Fourth, some concerns arose in the literature that a diary could end up being transformed into a recall questionnaire, altering the quality of the data in this way. Obviously, to avoid this effect it is vital that entries on the diary are made as close after the event happened as possible. If this issue arises, the use of electronic diaries which emit reminder signals or having extra contacts with the participants to remind them to complete the diary can help to overcome the problem. There was no indication of this issue in the current research, though: when participants were questioned about their habits of filling in the diary it emerged that keeping the questionnaire in a visible place or the association of completing the diary with a daily event were good reminders.

In light of the evidence from the literature review and the results of the current analysis it can be concluded that diaries provide the expected quality of the data. The associated advantages and the lack of evidence for the concerns listed above, indicate that the diary method can be successfully applied as a data collection method in the tourism area and the adoption of this approach is advantageous. In addition to increasing both the volume and richness of the data collected, the diary method offers a temporal and spatial dimension to the data, which is almost impossible to obtain by employing more traditional methods.

8.2.2 Second Objective: The Investigation of the Spending Behaviour of a Tourist Market

The previous section dealt with the theoretical part of the objective of this work and showed that the diary method is a reliable data collection technique capable of providing better quality data than the traditional methods. The second part of the research objective was to investigate the spending behaviour of a tourist market based on the data provided by the diary method. A case study of the British tourist market to the Shannon Region was adopted for this matter. As part of this broad objective, three discrete goals were established:

• to investigate if there are significant relationships between one or more socio-demographic and trip-related characteristics of the travel party and the level of spending during the trip;
• to examine the temporal variation of expenditure over the duration of the stay; and

• to analyse the geographic pattern of tourist activities and the associated expenditure.

These research questions have been answered through the construction of a number of empirical models by using the data collected via a diary survey and employing regression analysis and ANOVA as the major statistical techniques. Although this objective is more on the practical side and involves the analysis of the spending behaviour, it also illustrates the major advantages the diary method brings over the more traditional, recall-based approaches. First, the great level of detail of the data collected allowed the researcher to investigate expenditure determinants of different tourist cohorts and for different spending categories. Second, the compliance of the results of the analysis of expenditure determinants with previous findings in the literature validates the data collected by the diary and eliminates the concern that keeping a diary will lead to a change in the spending behaviour. Third, the diary adds a temporal and geographical dimension to the data, hence new insights into spending behaviour were revealed.

The analysis of expenditure determinants was motivated by the absence of detailed knowledge related to the spending behaviour of tourists during their stay. Detailed data on tourists' spending behaviour is crucial in the current environment characterized by increased competition and a steady shift in tourist needs and wants. Understanding the relationships between tourists’ consumption patterns and their demographic, socioeconomic and trip related characteristics is crucial for identifying viable market segments, predicting consumer purchase behaviour and implementing segmentation strategies for targeting and positioning (Cai, 1995). A review of the literature revealed that although some research was conducted in the USA and Asia, there is not enough research to understand the spending behaviour of European markets.

The British tourist market to the Shannon Region constituted a convenient case study, first, due to the access granted by the Shannon Airport Authority to conduct the survey; and second, the analysis is believed to bring new insights into the spending behaviour of the primary tourist market to the Shannon Region. As shown in Chapter 3, the British
inbound tourist market to Ireland has declined in recent years, but it is still of primary importance to Irish tourism. A deeper understanding of expenditure patterns is vital for policy planning and destination marketing. The current analysis revealed a number of interesting and original findings pertaining to the behaviour of the British tourist market to the Shannon Region, facilitating a better understanding of the market and providing tourism marketeers with new data that can serve as an important input for the development of future strategies. The key results of the analysis are outlined below under the headings of the three objectives discussed above.

8.2.2.1 Identifying the main expenditure determinants

Initially a model was developed to identify the main determinants of the level of spending based on the analysis of the entire sample. Since different tourism marketeers are interested on particular tourist segments and broad policy initiatives applied to the entire market as a single entity are no longer viable, the analysis continued by investigating the spending determinants for different purpose-of-visit cohorts. Rather than treating the market as homogeneous, this approach provides accurate and comprehensive data on the behaviour of each distinct tourist segment, providing destination marketers with more specific information to base their decisions.

General Model (Entire Sample Included)

A review of the relevant literature led to the postulation of nine hypotheses and their validity was tested by hierarchical regression analysis. The model developed for the research proved to be a good fit, explaining almost 60 per cent of the variation in spending. Socio-demographic characteristics such as income, age, gender and trip-related characteristics, e.g. purpose of visit, length of stay, party size were regressed against the expenditure per person per day. In accord with findings from previous research, the results revealed that although income is a significant factor explaining variations in spending, the trip-related characteristics have a better explanatory power. Expenditure per person per day appeared to differ according to the purpose of visit. The results identified business tourists as the best spenders. The number of adults as well as the presence of children in the travel party were found to have a significant negative impact on expenditure. The assessment of the impact of the type of accommodation used by the visitor revealed no difference between the expenditure of tourists staying in
hotels or B&Bs or self-catering units. However, a difference has been noted for tourists staying with their friends or relatives with spending being significantly lower than otherwise. The duration of stay has been found to be another significant factor negatively affecting expenditure per capita per day: the longer the length of stay, the lower the expenditure. Finally, renting a car was associated with higher per capita per diem expenditure.

**Holidaymakers**

Holidaymakers are the biggest share of the promotable tourist segment and also the cohort most likely to be influenced to visit Ireland by the marketing activities of industry operators and the Tourism State Agencies. Hence, this segment requires increased attention. The analysis investigated the determinants of both the total and per capita expenditure and the main factors affecting the level of spending on different expenditure categories. A detailed account of the most frequent purchases for each spending category was also provided.

Regression analysis and non-parametric techniques have been applied to identify the main drivers of spending. Socio-demographic and trip-related characteristics have been firstly regressed against per capita per day and total expenditure. The models developed proved to be a good fit and revealed once again that the trip related characteristics are better predictors of the level of spending. Expenditure per person per day was found to be a function of age, income, type of accommodation, number of adults, children in party and length of stay with age and income exhibiting a positive impact and the other variables a negative influence\(^84\).

As regards total expenditure, one additional factor was found to have a significant positive impact: car hire. The length of stay, number of adults in party and the presence of children were found to have a negative impact on the spending per person per day; but the same variables have the opposite effect on total expenditure. This result is not surprising considering that increasing the length of stay and party size is equivalent to an increase in the holiday quantity.

\(^84\) a lower expenditure is associated with a longer length of stay, higher number of adults in party, travelling with children and staying with friends or relatives.
It is interesting to learn that the factors found to be significant predictors of total and per person per day expenditure have different impacts on different spending categories. For instance, age was found to be significant only in explaining the variation on food and drinks expenses (positive impact, the older the tourists the higher the expenditure per person per day on food and drinks), income is a good predictor of accommodation spending (positive impact, the higher the income, the higher the spending per person per day on accommodation) and length of stay only explains the variation of food and drinks spending (negative impact, the longer the length of stay, the lower the spending per person per day on food and drinks).

**Tourists Visiting their Friends or Relatives (VFR)**

The assumption that the VFR cohort is less valuable than other tourist segments and cannot be stimulated by tourism planners due to its lack of sensitivity to the tourism marketing efforts, led to a neglect of this cohort as a research topic for many years. However, more recently the interest was renewed and some research on this topic showed that contrary to the expectations, the VFRs represent a major part of the travel market and have a significant economic impact on host communities. In addition, results from previous research challenged the traditional assumption of the homogeneity of this segment, identifying variations within this cohort with different typologies and significant differences in travel behaviour. Despite the recent upsurge of research in this area, there are no studies analysing the spending behaviour of VFRs. The current analysis fills this gap and provided a more in-depth understanding of the spending behaviour of the VFR tourist market to the Shannon Region by investigating the main drivers of the level of spending.

When put in contrast with other Non-VFR cohorts, the profile of a typical VFR tourist to the Shannon Region showed some particularities that motivated a further analysis of this cohort. An investigation of the main determinants of the level of VFRs’ spending revealed that although income is usually one of the most powerful predictors, the overall explanatory power of socio-demographic characteristics for VFRs is very low, accounting for only 1 per cent of the variation in expenditure. Apart from income, another four explanatory variables namely type of accommodation, length of stay, the presence of children in travel party and renting a car have been found to have a
statistically significant impact on level of spending. Higher spending is associated with higher income levels, with accommodation in hotels or B&Bs, with shorter durations of stay and with rental car service. On the opposite side, those VFRs travelling with children spend significantly less per capita than their counterparts.

The results of this analysis showed that although the expenditure of the VFR segment is much lower than that of other tourists, this cohort still brings economic value to the host communities considering the higher spending on retail goods and food and drinks. In addition, VFRs are less susceptible to seasonal variation; hence tourism marketers should pay more attention to this cohort especially in off-peak seasons.

**Business Tourists**

International research reveals that business tourism is one of the most appealing tourism segments because of the higher expenditure associated with a business trip and some other specific features that make the cohort more interesting for tourism marketers, e.g. low seasonality, high demand for hotel accommodation and conference facilities and a lower price sensitivity compared with other cohorts. Despite the general acknowledgement of the economic importance of business tourism, there is little research investigating the spending behaviour of this segment with most of the research being concerned with the issue of service quality and tourist satisfaction. This study provides an expenditure analysis of British business tourists to the Shannon Region and has contributed to a better understanding of the spending behaviour of this cohort.

An investigation of the main determinants of spending revealed interesting results. In contrast to other cohorts where gender was found to have no impact, business expenditure is significantly affected by gender. Previous research showed some significant differences between male and female business tourists with regard to hotel selection, service-use preferences, frequency of travel and length of stay. The results of the current analysis enhance previous findings showing that the spending patterns differ, with female tourists spending significantly less on a per person per day basis. A more detailed investigation of the differences in the level of spending revealed that the biggest discrepancy occurs among the transport and food and drinks expenses. It emerged that male business tourists spend on transport three times as much as the female tourists. Interestingly, almost half of the businessmen rented a car while only 27
per cent of the businesswomen used this service. In addition, the data showed that men prefer more expensive rental cars, spending 31 per cent more than their female counterparts. The analysis of the food and drinks expenses revealed that whilst there was no significant difference in the level of spending on food, the male tourists spent five times more than the businesswomen on drinks.

Apart from gender, three more variables were found to be significant in explaining the variation in spending: income, length of stay and car hire. The results showed that the higher the income the higher the daily expenditure. One explanation might be that those persons with a higher income are higher in the corporate hierarchy; hence the budget for travel is higher. The duration of stay is the factor with the highest impact. This is surprising considering that business tourists are expected to be less price-sensitive, hence having a more constant spending regardless the number of days stayed at the destination. Previous studies (Hanly, 2008) suggest that business-visitors are on a fixed budget for the whole trip. This might influence the per-diem expenditure, and is worth further investigation.

Based on this data tourism marketers can get a better idea of who their customers are, what their profile is and how they spend their money and hence they can adjust or change their strategies in order to achieve profit maximisation by targeting those customers that bring the highest value.

8.2.2.2 Expenditure Variation Over the Days of the Holiday

The findings summarised in the previous section identify the main determinants of spending for the entire generic sample and corroborate previous findings in the literature, validating in turn the diary method by eliminating the concerns related to a possible change in the behaviour of tourists participating in diary surveys. The fine granularity of data provided by the diary questionnaire allows the identification of the main drivers of spending for different tourist cohorts and the results can serve as a basis for market segmentation. While this kind of analysis can be performed with data collected by other instruments, although with less precision and detail, the diary method generates additional detailed data that allow more innovative analyses furthering our understanding of spending behaviour. Since data is collected on a daily basis, the variation in spending over the days of the holiday can be investigated.
The results of statistical techniques, such as RMANOVA and mixed within-between analyses of variation on data provided by the diary method, revealed interesting results. It has been shown for the first time that tourists exhibit similar spending behaviour over the days of the stay regardless of socio-demographic or trip-related characteristics. The spending curves have similar trajectories although the amount of spending varies between cohorts. Interestingly, the comparison between the current data set and a previous one collected back in 1998 by the NCTPS has shown that the level of day-to-day variability in spending behaviour and the shape of the expenditure trajectory are very comparable. This is somehow surprising considering the ever faster changing nature of the tourist who becomes more and more sophisticated.

The analysis revealed two general spending patterns:

- Tourists visiting the region for at most four nights tend to increase their expenditure day by day until the second last day and significantly reduce the spending on the day of departure.

- The expenditure of tourists staying for at least 5 nights at the destination is remarkably stable over the days of the holiday.

After defining a general pattern, it was investigated whether the spending behaviour of different cohorts adheres to the general pattern or there are some particularities associated with different groups. The analysis revealed that all tourists follow similar patterns over time regardless their age, gender, annual income, purpose for visit or their travel party structure. Hence, although the socio-demographic and trip-related characteristics have a significant impact on the level of spending, these variables have no impact on the trajectory of expenditure, with most of the tourists exhibiting the same spending pattern over the days of the stay. While this analysis was limited to a single tourist market to a region, further research is needed to investigate if the patterns that emerged from the current analysis hold for other markets or for other regions visited.

### 8.2.2.3 Tourist Mobility and the Geographic Spread of Expenditure

Chapter 2 pointed out the main issues associated with the Irish tourism statistical system and one of the major drawbacks, that is actually an international issue, was found to be the lack of adequate and reliable regional data. One of the advantages of the diary
approach is the ability to provide detailed data on the geographical spread of activity and the associated expenditure over the days of the holiday. This information can lead to a better measurement of the impact of tourism for each region through the use of a regional TSA and may have a significant impact in the marketing strategies and management plans at a local level. One of the objectives of the current research was to investigate the geographic trajectory of visits and associated expenditure using British tourists visiting the Shannon Region as an illustrative example. Although the analysis is limited in space and considers only one tourist market the main purpose is to illustrate the additional vital information that can be obtained with little extra effort by employing a diary approach.

By recording the places visited on a daily basis, the diary allows for the computation of spending per person per day by location as well as the investigation of the propensity to visit more than one location. The data collected by the diary questionnaire provide insights into the most popular destination, expenditure, number of nights spent at each location as well as a detailed breakdown of spending in different expenditure categories which are critical from a marketing perspective.

The geographical empirical analysis has shown several important patterns. It emerged that a considerable proportion of the respondents, i.e. 48 per cent of those tourists who specified the daily location, visited more than one location during their stay in Ireland. In addition, the results of the statistical analysis revealed significant differences among cohorts with regard to mobility. For instance, tourists visiting the region for holiday reasons show a higher mobility than other cohorts with 71 per cent of the respondents visiting more than one County during their stay. Conversely, business tourists exhibited a less active spatial behaviour; their itinerary was more regionally focused and confined with the area where the business or conference venue was located. Tourists travelling with companions showed a higher propensity to visit more than one destination. Since time is a limited resource in the course of a trip, the duration of stay can either encourage or discourage the movement patterns of tourists. It emerged from the analysis that the longer the length of the stay, the higher the percentage of tourists visiting more places. It is worth stressing that the investigation of the impact of income on mobility revealed interesting results. It has been shown that tourists at the two ends of the scale

---

85 Respondents refers to those who specified the location on a daily basis
(very low and high income) exhibit higher mobility. While at first sight this result might appear odd, economic rationalization might be a plausible explanation. High-income groups are less constrained by the travel budget, hence they might increase their mobility and the low-income tourists might seek to fit as many places as possible in their itinerary to maximise the use of the money, time and other resources.

Since expenditure data at a local level is very scarce, the current study aimed to investigate the level of spending at different locations in an attempt to gain some understanding of a possible relationship between expenditure and travel patterns. The analysis revealed that different counties are more popular among different cohorts and the level of spending varies considerably. For instance, county Limerick is the prominent destination for business and VFR tourists, while Kerry and Galway are popular among holidaymakers. These results indicate that tourists travelling for different purposes have different preferences in terms of places visited and a clearer understanding of which kind of tourists visit a particular location and their associated expenditure would contribute to better planning and marketing efforts. It emerged that expenditure tend to be higher the further away from the airport the places visited are. For instance, the average spending per person per day of holidaymakers is higher in the main tourist centres like Kerry, Galway and Cork.

It appears from the results that expenditure is related to travel patterns. Unfortunately the small sample size did not allow for a more detailed analysis. A more complex investigation would be necessary in order to assess the exact relationships between different itineraries and level of spending. However, this attempt can be considered a first step in building up knowledge related to geographical trajectories and spending behaviour of tourists and provides a strong indication that future research in the area is justified.

### 8.3 Implications of the thesis

The purpose of this thesis was twofold: One goal was to investigate the applicability of the diary method as a reliable means for collecting tourism expenditure data; the second goal was to provide a detailed analysis of the spending behaviour of British tourists to the Shannon region based on the data provided by the diary method, including some innovative analyses that are unavailable to date. By achieving its aims, the current
research makes a significant contribution insofar as it opens up a new tourism research area and brings additional benefits for tourism statistics.

It has been shown in Chapter 4 that the statistical system for tourism currently suffers from a lack of credibility, an issue that was often mentioned as a barrier in accepting tourism as an industry on its own (Smith, 1998) and was also the main cause of the little acclaim the sector received in the past (Lickorish, 1997). The extensive use of the recall-based methods to collect tourism data significantly alters the accuracy of the estimates affecting the validity of tourism statistics. Although the diary method was recommended on numerous occasions as the single one alternative to the recall method, potential issues like low response rates, logistical difficulties or the susceptibility to conditioning effect have prevented its adoption in the tourism field. This thesis contributes to the body of literature on the topic of the diary method and analysed in great detail the applicability for collecting tourism expenditure data. Most of the issues that are described by the vast body of literature on the application of the diary method in different fields were investigated and the results revealed that although some issues might arise, they are far less of a problem than recall error and in addition there are many corrective measures that researches can use to avoid the pitfalls.

According to the results presented in the current study, data provided through diaries is more accurate and more detailed than data collected via other means. One area where this can make a significant contribution is the Tourism Satellite Accounts. As discussed in the literature review section (see Chapter 4), the Tourism Satellite Account framework was developed in an attempt to provide more credibility to the measurement of the impact of tourism and to provide comparability with the measurements of other economic and social activities. However, as Smith (2004) pointed out, there are a number of practical and conceptual challenges, one being related to data requirements since the TSA requires a substantial amount of high-quality data that is not always available. The adoption of a diary approach in tourism data collection could provide the so much needed detailed data, and in addition would supply information at a regional level as well.

On the practical side, this study built on previous research that has demonstrated the link between the level of spending at the destination and different socio-demographic
Chapter 8  Conclusions

and trip-related characteristics of travel parties, contributing to the body of literature for visitor expenditures. The great detail of information provided by the diaries allowed not only for the analysis of the spending behaviour of an entire market but also for the investigation of the impact of a number of variables (socio-demographic and trip-related factors) on the level of spending of different tourist cohorts, facilitating in this way a deeper understanding of spending patterns and providing a basis for future segmentation studies. In addition, for those cohorts where the sample size permitted, an analysis of the determinants of the level of spending on different expenditure categories was conducted, providing tourism marketeers with insights into who are the most profitable customers. Hence, the results of this study provide a more comprehensive picture on the subject of tourist expenditure predictors and their impacts on tourist spending patterns.

As discussed on Chapter 3, Ireland is highly reliant on the British market for its tourism sector. Unfortunately, the increasingly competitive tourism environment led to a diminution of the British market’s performance in recent years. Huge efforts have been made to gain a clear picture of why British tourists are changing behaviour, in order to be able to build strategies that would prevent a further decline of this cohort’s performance. Project Britain, discussed in Chapter 3, was the first step initiated by Tourism Ireland and other sector leaders and aimed to investigate the main changes in tourist behaviour, the most appealing segments to be targeted, and the strengths and weaknesses of the Irish tourism product. However, the extensive customer research conducted as part of the project focused more on the qualitative aspects and provided little or no information at all about the spending behaviour of this market. Although the current research is limited to a single geographical area (the Shannon Region), it complements the results published by Tourism Ireland and contributes to a better understanding of the British tourist behaviour. While a single study area might be considered as a limitation of the study, it can actually be perceived as being of huge benefit for tourism marketeers working in that area, as aggregate results and the national recommendations might not be suitable at a regional level.

Apart from contributing to the body of literature on tourism expenditure determinants, this study, with the help of the data provided by the diary method, provided some vital insights into some areas where traditional approaches fail to provide accurate data. This study shows for the first time how expenditure levels vary over the days of the stay at
the destination. It is interesting to learn that although the level of spending for different cohorts significantly differs, the expenditure trajectory follows a general pattern regardless the tourist group under study.

8.4 Future Research

Although this study identified the diary method as a better alternative to the traditional techniques for gathering tourism expenditure data and provided a detailed account of the spending behaviour of tourists to a destination, several areas remain for future research. The following section will show a roadmap for future investigations divided in two areas: first on the methodological side, including possible improvements of the diary method and second, on the practical side, focusing on possible ways to further our understanding of tourism spending behaviour.

8.4.1 Methodological side

Although the adoption of a paper and pencil diary proved to bring considerable benefits to the collection of tourist expenditure data, there is still room for further investigation into how advanced technology could bring further improvements. Electronic methods of data collection have been developed and applied in different disciplines. However, adoption of these methods in the field of tourism is very slow and paper based questionnaires are still the dominant survey instruments. In related areas, like transport research, PDAs with GPS were used to monitor traffic and movement behaviour. However, these methods are not without problems on their own and issues like problems with data downloading or corrupted or damaged devices occur quite often. GPS was also used, although rarely, in tourism research to monitor the spatial and temporal tourist activities. While the adoption of GPS can provide data on the tourist mobility, it cannot be used for retrieving expenditure data.

The increased coverage with wireless networks and the use of more and more sophisticated mobile phones have the potential to overcome some of the limitations associated with other electronic devices. It is believed that the use of mobile phones could significantly improve the paper-based diary, both for the collection of tourist expenditure data as well as spatial and temporal trajectory of tourists by bringing the following advantages:
• It can contribute to a higher response rate since a reminder text to fill in the diary can be sent. Also one of the main reasons for non-response in paper based diary survey is the loss of the questionnaire or the inconvenience to carry around the research instrument. Using a mobile phone application eliminates these issues.

• Geographical activity can be easier monitored.

• Data collected is instantly inputted into the database eliminating the time consuming task of data inputting.

While this study showed that the diary method can be successfully applied to collect expenditure data at the regional level, more research should be conducted to investigate the feasibility of applying the method to gather the data at a national level. The amount of work and the high cost might prohibit its adoption at a larger scale. For instance, in the Allnutt report, the author states that the diaries would certainly improve the accuracy of data but it is very unlikely that this would justify the higher cost that would lie in the adoption of the diary method for the UKTS (UK Tourism Survey). There are also concerns about a lower response rate as 60 per cent non-response rate would be unacceptable in official statistics, which accounts for the need to undertake face-to-face interviews. The UK International Passenger Survey has a response rate of 81 per cent and a sampling error for overall expenditure of 2.9 per cent (Allnutt, 2003). Applying the diary method with a constraint to obtain similar response rate and sampling error would significantly increase the cost. However, the advance in the technology, as discussed above, and the fact that people are more willing to share information can have a significant contribution to reducing costs.

8.4.2 Practical side

This study investigated the relationship between different socio-demographic and trip-related characteristics and level of spending at the destination. It showed the superiority of trip-related characteristics in explaining the variation in spending levels, but wasn't able to explain the full variation. It is believed that these results will encourage further investigation of the impact of a broader range of factors.
Psychological characteristics were found in previous studies to have only limited impact on spending. This area was not sufficiently explored in the literature, and it would be interesting to investigate the influence of these psychological factors in an Irish setting.

Further factors that need to be taken into account are (a) the increased competition from new emerging markets, (b) social changes with people enjoying more time to spend for travel and (c) the type of trips and the number of breaks per year is changing and can have a significant impact on level of spending. More detailed research into these three factors would further our understanding of tourist spending behaviour and would help destination marketeers to develop appropriate strategies based on firm data rather than intuition.

Given that the results presented in this thesis are limited to the British tourist market to the Shannon Region, it would be beneficial to extend the research to include other tourist markets. This work detailed the required methodology and showed the feasibility of the diary approach. Now it would be vital to get a large set of data to work on. This will help to validate the findings of the presented case-study, e.g. do we see similar results for the market of British tourists to France, or for American visitors to Ireland? This will allow a comparison between different markets and help identify niches that bring the most advantage to a region. In addition, extending the research to the entire island would lead to more precise national tourism data that could be successfully used for the development of future strategies.

Applying new technologies, like applications for smart-phones, or links to social networking platforms will further reduce methodological difficulties. The current trend towards social networking also shows that many people are very keen to share their whereabouts and current tasks with other people in real-time. It needs to be investigated how this trend can be leveraged for gaining better tourism data. This might allow expanding the quality and quantity of collected data into a scale that is out of reach with traditional survey set-ups.


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Bibliography


Appendix A: Diary Questionnaire

Part 1

1. Respondent’s Name: ________________________________

2. Address: _______________________________________

3. What is your country of residence? ____________________

4. Party Composition

<table>
<thead>
<tr>
<th>Travelling alone</th>
<th>Couple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travelling with family</td>
<td>Other adult party</td>
</tr>
<tr>
<td></td>
<td>Please specify _________</td>
</tr>
</tbody>
</table>

5.1. Please specify whether the expenditure data below refers to yourself or to a group.

Self  □  Couple  □  Group  □

5.2. How many members of your personal travelling party (those whose expenditure will be covered in the diary) are in the following age brackets?

<table>
<thead>
<tr>
<th>Age Bracket</th>
<th>Yourself (Tick as appropriate)</th>
<th>Others in Party (Tick as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>&lt; 15 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-24 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-34 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-44 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45-54 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55-64 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 65 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Occupation of chief wage earner(s)?

1) ________________________________

2) ________________________________

7. Please indicate the annual income of the chief wage earner(s) in the section below.

<table>
<thead>
<tr>
<th>Income</th>
<th>Earner 1</th>
<th>Earner 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 15,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15,001 – 25,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25,001 – 35,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35,001 – 45,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45,001 – 55,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55,001 – 65,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 65,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please state the currency in which your annual income is denominated: ________
8. Date of arrival into Ireland:

<table>
<thead>
<tr>
<th>Day</th>
<th>Month</th>
<th>Year</th>
</tr>
</thead>
</table>

8.1. Did you arrive in Ireland directly from?

- U.K.  
- North America  
- Continental Europe  
- Other

8.2. Did you arrive in Ireland:

- By sea  
- By air → please specify flight details

<table>
<thead>
<tr>
<th>Airline</th>
<th>Flight No.</th>
</tr>
</thead>
</table>

8.3. Where did you arrive into Ireland?

- Shannon  
- Cork  
- Knock  
- Dublin  
- Kerry  
- Waterford  
- Donegal  
- Rosslare

9. Are you leaving Ireland:

- By sea to Britain  
- By air to Britain  
- By sea to Continental Europe  
- By air to Continental Europe  
- By air to North America  
- Other (please specify) ________________

Date of departure from Ireland:

<table>
<thead>
<tr>
<th>Day</th>
<th>Month</th>
<th>Year</th>
</tr>
</thead>
</table>

10. What is the main purpose of your visit (please tick appropriate box)

- Visiting Friends  
- Business (excluding conferences)  
- Visiting Relatives  
- Health Treatment  
- Holiday  
- Incentive Trip  
- Conference  
- Other (please specify) ________________

- Study
11. Are you travelling on a pre-paid package holiday or independently? (By pre-paid package holiday I mean a holiday where an inclusive price for your fare to/from Ireland and at least one other element such as accommodation, car hire, etc., was fully paid for in advance).

- Pre-paid package [ ]
- Independent travel [ ]

11.1. How much did you spend on your pre-paid package tour or on independent travel arrangements prior to your arrival in Ireland?

<table>
<thead>
<tr>
<th>Amount</th>
<th>Currency</th>
</tr>
</thead>
</table>

11.2. If travelling on a prepaid package tour, please indicate the pre-paid items covered by your package (if you know):

- Accommodation [ ]
- Meal [ ]
- Don’t know [ ]
- Transport [ ]
- Sights / Entertainment [ ]

Does your package tour include more countries?

- Yes [ ]
- No [ ]

If Yes please specify the countries included in the package and the number of nights spent in each of these countries outside the Republic of Ireland:

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of nights</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Is your trip funded by an institution/sponsor or is it self funded?

- Self-funded [ ]
- Not self-funded [ ]

If trip is funded by an institution, please specify the details of such funding (i.e. the portion of travel, accommodation that is paid for).
To help you in completing the diary, an example of a completed entry for one day is provided below (the example covers all expenditure made by two persons travelling as a couple).

### Diary

**Day:** Saturday  
**Date:** 7 / 06 / 2005

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>Shopping</th>
<th>Meals</th>
<th>Transport</th>
<th>Sights / Ent</th>
<th>Misc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel</td>
<td>€120</td>
<td></td>
<td>Train</td>
<td>Sightseeing Tours</td>
<td></td>
</tr>
<tr>
<td>B&amp;B / Guesthouse</td>
<td>Crystal</td>
<td>Breakfast</td>
<td>Bus</td>
<td>€16 Heritage pk / Castle / Historical Monument</td>
<td>€22</td>
</tr>
<tr>
<td>Self catering / Rented</td>
<td>China / Pottery</td>
<td>Mid-day meal</td>
<td>Taxi</td>
<td>Interpretative Centres</td>
<td></td>
</tr>
<tr>
<td>Caravan</td>
<td>Clothing</td>
<td>Afternoon tea</td>
<td>€30</td>
<td>Car Hire</td>
<td></td>
</tr>
<tr>
<td>Hostel</td>
<td>Linen</td>
<td>Evening Dinner</td>
<td>€95**</td>
<td>Nature &amp; wildlife parks</td>
<td></td>
</tr>
<tr>
<td>Cabin Cruisers</td>
<td>Electrical Goods</td>
<td>Snack</td>
<td>€6.70</td>
<td>Bicycle Hire</td>
<td></td>
</tr>
<tr>
<td>Camping</td>
<td>Leather Goods</td>
<td>Boat / Ferry</td>
<td></td>
<td>City Pass (ie Dublin Pass)</td>
<td></td>
</tr>
<tr>
<td>Staying with Friends / Relatives</td>
<td>Jewellery</td>
<td>Drinks</td>
<td>Flights (internal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Alcohol</td>
<td>Fishing / Sailing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Day-to-Day Shopping</td>
<td>Non-alcoholic</td>
<td>€2.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Postcards / Stamps / Papers</td>
<td>€11.5</td>
<td>Duty-free drinks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tobacco</td>
<td>Theatre / Cinema</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Groceries</td>
<td>Show / Concert / Cabaret</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Phone card</td>
<td></td>
<td>€5</td>
</tr>
</tbody>
</table>

*Please state the other categories which you have spent money on in the empty boxes below. Location(s) to which most of this days’ expenditure is attributable: Limerick

Comments on Days’ Activities: Visited Bunratty Castle. Walking visit of Cratloe wood.

** Evening dinner and mid-day meal costs include the cost of drinks.
Part II

Day: ___________       Date: _______/_____/______

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>€</th>
<th>Shopping</th>
<th>€</th>
<th>Meals</th>
<th>€</th>
<th>Transport</th>
<th>€</th>
<th>Sights / Ent</th>
<th>€</th>
<th>Misc</th>
<th>€</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel</td>
<td></td>
<td><strong>Tourist Shopping</strong></td>
<td></td>
<td><strong>Food</strong></td>
<td></td>
<td><strong>Train</strong></td>
<td></td>
<td><strong>Sightseeing Tours</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B&amp;B / Guesthouse</td>
<td></td>
<td>Crystal</td>
<td></td>
<td>Breakfast</td>
<td></td>
<td>Bus</td>
<td></td>
<td>Heritage pk / Castle / Historical Monument</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self catering / Rented</td>
<td></td>
<td>China / Pottery</td>
<td></td>
<td>Mid-day meal</td>
<td></td>
<td>Taxi</td>
<td></td>
<td>Interpretative Centres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caravan</td>
<td></td>
<td>Clothing</td>
<td></td>
<td>Afternoon tea</td>
<td></td>
<td>Car Hire</td>
<td></td>
<td>Gardens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostel</td>
<td></td>
<td>Linen</td>
<td></td>
<td>Evening Dinner</td>
<td></td>
<td>Petrol</td>
<td></td>
<td>Nature &amp; wildlife parks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabin Cruisers</td>
<td></td>
<td>Electrical Goods</td>
<td></td>
<td>Snack</td>
<td></td>
<td>Bicycle Hire</td>
<td></td>
<td>Heritage Pass</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Camping</td>
<td></td>
<td>Leather Goods</td>
<td></td>
<td>Boat / Ferry</td>
<td></td>
<td>Petrol</td>
<td></td>
<td>City Pass (ie Dublin Pass)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Staying with Friends / Relatives</td>
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<td>Jewellery</td>
<td></td>
<td><strong>Drinks</strong></td>
<td></td>
<td>Flights (internal)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alcoholic</td>
<td></td>
<td></td>
<td></td>
<td>Fishing / Sailing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Day-to-Day Shopping</strong></td>
<td></td>
<td>Non-alcoholic</td>
<td></td>
<td></td>
<td></td>
<td>Golf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Postcards / Stamps / Papers</td>
<td></td>
<td>Duty-free drinks</td>
<td></td>
<td>Horseriding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Groceries</td>
<td></td>
<td></td>
<td></td>
<td>Theatre / Cinema</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
<td>Show / Concert / Cabaret</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other*</th>
<th>Other*</th>
<th>Other*</th>
<th>Other*</th>
<th>Other*</th>
<th>Other*</th>
</tr>
</thead>
</table>

*Please state the Other categories which you have spent money on in the empty boxes below.

Location(s) to which most of this days’ expenditure is attributable: __________________________

Comments on Days’ Activities: ______________________________________________________
Appendix A

Diary Questionnaire

13. Were all the expenditures recorded on the day of occurrence?
   Yes ☐  No ☐

14. How many people are covered by your diary?  __________

15. Final comments on visit to Ireland
   __________________________________________________________________
   __________________________________________________________________

15.1. Were there any particular aspects about your trip which you found unsatisfactory?
   Yes ☐  No ☐

   If yes please specify:  ____________________________________________

15.2. Have you any suggestions how a visit to Ireland could be improved?
   Yes ☐  No ☐

   If yes please specify:  ____________________________________________

16. Please indicate the amount of V.A.T. you have claimed back (if any):  ______

17. In terms of value for money is Ireland generally:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Good</td>
<td>1</td>
</tr>
<tr>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Fair</td>
<td>3</td>
</tr>
<tr>
<td>Poor</td>
<td>4</td>
</tr>
<tr>
<td>Very Poor</td>
<td>5</td>
</tr>
</tbody>
</table>

18. How satisfied were you with your visit to Ireland?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Satisfied</td>
<td>1</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>2</td>
</tr>
<tr>
<td>Fairly Satisfied</td>
<td>3</td>
</tr>
<tr>
<td>Not Very Satisfied</td>
<td>4</td>
</tr>
<tr>
<td>Not at All Satisfied</td>
<td>5</td>
</tr>
</tbody>
</table>

Thank you for your cooperation!
Appendix B: Initial Diary Questionnaire

Part 1

1. What is your country of residence? ________________________________

2. Party Composition

   Travelling alone ☐   Couple ☐
   Travelling with family ☐   Other adult party ☐
   Please specify __________

3.1. Please specify whether the expenditure data below refers to self or group.

   Self ☐   Group ☐

3.2. How many members of your personal travelling party (those whose expenditure will be covered in the diary) are in the following age brackets?

<table>
<thead>
<tr>
<th>Age Bracket</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-24 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-34 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-44 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45-54 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55-64 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;65 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Occupation of Chief wage earner(s)?

   1) ___________________________
   2) ___________________________

5. Please indicate the annual income of the chief wage earner(s) in the section below.

<table>
<thead>
<tr>
<th>Income</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 15,000</td>
<td></td>
</tr>
<tr>
<td>15,001 – 25,000</td>
<td></td>
</tr>
<tr>
<td>25,001 – 35,000</td>
<td></td>
</tr>
<tr>
<td>35,001 – 45,000</td>
<td></td>
</tr>
<tr>
<td>45,001 – 55,000</td>
<td></td>
</tr>
<tr>
<td>55,001 – 65,000</td>
<td></td>
</tr>
<tr>
<td>&gt; 65,000</td>
<td></td>
</tr>
</tbody>
</table>

Please state the currency in which your annual income is denominated: __________
6. Date of arrival into Ireland:

<table>
<thead>
<tr>
<th>Day</th>
<th>Month</th>
<th>Year</th>
</tr>
</thead>
</table>

6.1. Did you arrive in Ireland directly from?

- U.K. □
- North America □
- Continental Europe □
- Other □

6.2. Did you arrive in Ireland:

- By sea □
- By air □ → please specify details of the flight

<table>
<thead>
<tr>
<th>Airline</th>
<th>Flight No.</th>
</tr>
</thead>
</table>

6.3. Where did you arrive into Ireland?

- Shannon □
- Cork □
- Knock □
- Dublin □
- Kerry □
- Waterford □
- Donegal □
- Rosslare □

7. Are you leaving Ireland:

- By sea to Britain □
- By air to Britain □
- By sea to Continental Europe □
- By air to Continental Europe □
- By air to North America □
- Other (please specify) □

Date of departure from Ireland:

<table>
<thead>
<tr>
<th>Day</th>
<th>Month</th>
<th>Year</th>
</tr>
</thead>
</table>

8. What is your main purpose of visit (please tick appropriate box)

- Visiting Friends and relatives □
- Business (excluding conferences) □
- Holiday □
- Health Treatment □
- Conference □
- Incentive Trip □
- Study □
- Other (please specify) □
9. Are you travelling on a pre-paid package holiday or independently? By pre-paid package holiday I mean a holiday where an inclusive price for your fare to/from Ireland and **at least one other element** such as accommodation, car hire, etc., was fully paid for in advance.

Pre-paid package ☐ Independent travel ☐

9.1. How much did you spend on your pre-paid package tour or on independent travel arrangements prior to your arrival in Ireland.

<table>
<thead>
<tr>
<th>Amount</th>
<th>Currency</th>
</tr>
</thead>
</table>

9.2. If travelling on a package tour: Please indicate the pre-paid items covered by your package (if you know):

Accommodation ☐ Meal ☐
Transport ☐ Sights / Entertainment ☐

Does your package tour include more countries?
Yes ☐ No ☐

If **Yes** please specify the countries included in the package and the number of nights spend in each of these countries outside Republic of Ireland:

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of nights</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. Is your trip funded by an institution/sponsor or is it self funded?

Self-funded ☐ Not self-funded ☐

If trip is funded by an institution, please specify the details of such funding (i.e. the portion of travel, accommodation that is paid for).
To help you in completing the diary, an example of a completed entry for one day is provided below (the example covers all expenditure made by two persons travelling as a couple).

### Diary

**Day:** Saturday  
**Date:** 7 / 06 / 2005

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>€</th>
<th>Shopping</th>
<th>€</th>
<th>Meals</th>
<th>€</th>
<th>Transport</th>
<th>€</th>
<th>Sights / Ent</th>
<th>€</th>
<th>Misc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel</td>
<td>€120</td>
<td>Tourist Shopping</td>
<td></td>
<td>Food</td>
<td></td>
<td>Train</td>
<td></td>
<td>Sightseeing Tours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B&amp;B / Guesthouse</td>
<td></td>
<td>Crystal</td>
<td></td>
<td>Breakfast</td>
<td></td>
<td>Bus</td>
<td>€16</td>
<td>Heritage pk / Castle / Historical Monument</td>
<td></td>
<td>€22</td>
</tr>
<tr>
<td>Self catering / Rented</td>
<td></td>
<td>China / Pottery</td>
<td></td>
<td>Mid-day meal</td>
<td>€30</td>
<td>Taxi</td>
<td></td>
<td>Interpretative Centres</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caravan</td>
<td></td>
<td>Clothing</td>
<td></td>
<td>Afternoon tea</td>
<td>€9.50</td>
<td>Car Hire</td>
<td></td>
<td>Gardens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostel</td>
<td></td>
<td>Linen</td>
<td></td>
<td>Evening Dinner</td>
<td>€95**</td>
<td>Petrol</td>
<td></td>
<td>Heritage Pass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabin Cruisers</td>
<td></td>
<td>Electrical Goods</td>
<td></td>
<td>Snack</td>
<td>€6.70</td>
<td>Bicycle Hire</td>
<td></td>
<td>Nature &amp; wildlife parks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camping</td>
<td></td>
<td>Leather Goods</td>
<td></td>
<td>Boat / Ferry</td>
<td></td>
<td>City Pass (ie Dublin Pass)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staying with Friends / Relatives</td>
<td></td>
<td>Jewellery</td>
<td>Drinks</td>
<td>Flights (internal)</td>
<td></td>
<td>Alcohol</td>
<td></td>
<td>Fishing / Sailing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day-to-Day Shopping</td>
<td></td>
<td>Postcards / Stamps / Papers</td>
<td>€11.5</td>
<td>Duty-free drinks</td>
<td></td>
<td>Golf</td>
<td></td>
<td>Horseriding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groceries</td>
<td></td>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
<td>Theatre / Cinema</td>
<td></td>
<td>Show / Concert / Cabaret</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other*</td>
<td></td>
<td>Other*</td>
<td></td>
<td>Other*</td>
<td></td>
<td>Other*</td>
<td></td>
<td>Other*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone card</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Please state the other categories which you have spent money on in the empty boxes below. Location(s) to which most of this days’ expenditure is attributable: Limerick

**Comments on Days’ Activities:** Visited Bunratty Castle. Walking visit of Cratloe wood.

**Evening dinner and mid-day meal costs include the cost of drinks.**
11. Were all the expenditures recorded on the day of occurrence?
   Yes ☐ No ☐

12. How many people are covered by your diary?  __________

13. Final comments on visit to Ireland


13.1. Were there any particular aspects about your trip which you found unsatisfactory?
   Yes ☐ No ☐

   If yes please specify: ____________________________________________

13.2. Have you any suggestions how a visit to Ireland could be improved?
   Yes ☐ No ☐

   If yes please specify: ____________________________________________

14. Please indicate the amount of V.A.T. you have claimed back (if any): _______

15. In general would you say that the value for money in Ireland is:

   | Very Good | 1 |
   | Good      | 2 |
   | Fair      | 3 |
   | Poor      | 4 |
   | Very Poor | 5 |

16. How satisfied were you with your visit to Ireland?

   | Completely Satisfied | 1 |
   | Very Satisfied       | 2 |
   | Fairly Satisfied     | 3 |
   | Not Very Satisfied   | 4 |
   | Not at All Satisfied | 5 |
Personal

Name: 
Address: 

E-mail: 

Thank you for your cooperation!
Appendix C: Outlier Analysis

The outliers are defined as cases with values well above or well below the majority of the other cases. One simple way to detect the outliers is by analyzing the histogram and the Box plot associated with the variable of interest. The histogram and box plot for *per capita per diem expenditure* revealed 2 extreme values, i.e. cases that extend more than 3 box-lengths from the edge of the box, and a number of outliers, i.e. more than 1.5 box-lengths from the edge of the box. The z-scores for *per capita per diem expenditure* were also analyzed to get an insight about how many scores fall within certain limits.

In a normal distribution, one can expect to find 95% of the absolute values to be less than 1.96, 5% greater than 1.96, not more than 1% > 2.58 and no one above 3.29 on the corresponding Gaussian bell graph. The following table presents the z-scores for the variable of interest:

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>outlier1</td>
</tr>
<tr>
<td>Valid absolute z-score less than 1.96</td>
</tr>
<tr>
<td>absolute z-score greater than 1.96</td>
</tr>
<tr>
<td>absolute z-score greater than 2.58</td>
</tr>
<tr>
<td>absolute z-score greater than 3.29</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

The table shows that 95.6% of the values are smaller than 1.96, which is according to the expectations. From the remaining 4.4%, 3% are greater than 2.58 indicating the presence of outliers. Even more obvious, the 4 values greater than 3.29 mark cases that form significant outliers and need further investigation.
Unfortunately, there is no consensus in the statistical literature regarding the best treatment of extreme values and outliers. In those cases where the extreme values or outliers have a significant impact on the mean value of scores, some statisticians recommend the removal of the atypical values, while others suggest that the replacement with other less extreme values is the best alternative. In the current study, it was decided to remove one of the extreme values and to adjust the value of the other one and other outliers that required attention. The justification of this action is:

1. It was considered that the influence of the extreme values and outliers on the mean per capita per diem was significant enough to justify the manipulation of these values, i.e. the mean was 105.96; 5% and the trimmed mean 100.28.

2. A more in depth analysis of the extreme values revealed that one of the cases had actually out of range values for all expenditure categories thus it was decided to remove it from the dataset.

3. In the case of the other extreme value and one of the remaining outliers the value that was far out the range was replaced with the maximum corresponding to the cases with the same characteristics, because the out of range value was only for a category of expenditure and the value might have even been an error that occurred when filling in the diary.

4. Even if there were a few other outliers, no treatment was applied. The reason behind this difference in treatment of outliers is that outliers for per capita per diem expenditure for the full dataset are a representative value for one of the cohorts and a cohort analysis is part of the objectives of the current research.

5. One of the outliers was deleted because it was not part of the population, i.e. one flight with the destination Dublin had to land in Shannon.

Even after correcting the values for the extreme cases, there are still two cases with an absolute z-score higher than 3.29. It was decided to apply no treatment for these, as they are representative cases for business tourists- business expenditure usually being higher. Only the cases that were outliers for cohorts as well were taken into consideration for one of the above steps. More details about the influence of the outliers are presented in section 5.4.5.1 under the regression analysis.