



# **The Influence of the Financial Crisis on European City Tourism As Predicted by Tourism Experts**

Master Thesis for Obtaining the Degree  
Master of Business Administration  
in Tourism Management

Submitted to Prof. Dr. Karl Wöber

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## **Abstract**

Tourism is the largest industry in the world that many people are working directly or indirectly in it. In Europe, tourism has been always paid careful attention on many different levels, as Europe is the most important tourism region in the world in terms of both destination and source. However, the global financial crisis started from 2008 has brought severe damages to tourism, as tourism is especially vulnerable to economic uncertainty and volatility. Therefore it is very important and necessary to monitor the impact of the financial crisis and forecast the future change in tourism demands. Then destination management organizations can make proper strategies during the time of crisis and on the way of recovery.

There are numerous models and tools that were established and tested for forecasting tourism demand. In this paper forecasts of tourism demands in European cities are based on tourism experts' judgmental opinions, which are supposed to be a better alternative approach during this unique period of time. The judgmental forecasts are obtained through a series of crisis monitor surveys among European tourism experts, which were initialed by European Cities Marketing. Later, the actual data are compared with experts' forecasts in order to evaluate the quality of judgmental forecasting method during the time of crisis. At the end, conclusion is made about the influence of financial crisis on European city tourism forecasted by tourism experts.

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## **Affidavit**

I, SHI Wei, hereby ensure that:

1. I wrote the present Master thesis myself, “The Influence of the Financial Crisis on European City Tourism as Predicted by Tourism Experts”, 90 bound pages, that I have only used the given sources and resources and have not been assisted by external party that is disapproved of.
2. I neither presented this Master thesis at home nor abroad in a format other than the research paper.
3. This Master thesis is the same as the research paper evaluated by the examiner.

Date: April 2010

Signature: SHI Wei

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## **Definitions and abbreviations**

CTO: city tourism organization

DMO: destination management organizations

ECM: European Cities Marketing

EU: European Union

GDP: gross domestic product

IATA: International Air Transport Association

MICE: meeting, incentives, conferences, exhibitions

NTO: national tourism organization

TourMIS: Marketing-Information-System for tourism managers

TRC: Tourism Resilience Committee

UNWTO: United Nations World Tourism Organization

## 1. Introduction

Europe, as the most important tourism region in the world in terms of both destination and source, has always paid careful attention to the state of the tourism industry on many different levels. Europe's market share in global tourism has steadily declined during recent years; nonetheless, Europe continues to play a central role in the global tourism market [1]. According to the European Commission, tourism has consistently contributed to the achievement of several major European Union (EU) objectives such as sustainable development, economic growth, employment as well as economic and social cohesion. "The EU tourism industry generates more than 4% of the EU GDP, with about 2 million enterprises employing around 4% of the total labor force (approximately 8 million jobs). When related sectors are taken into account, the estimated contribution of tourism to GDP creation is much higher - tourism indirectly generates about 11% of the European Union's GDP and provides about 12% of the labor force" [2].

Since the last quarter of 2008, the global economy has undergone the most severe recession of the post second world war period with damaging consequences for millions of people, businesses and jobs worldwide [3]. Tourism has not gone untouched by this global crisis, and throughout the tourism industry it is believed that the global financial crisis has ultimately damaged the entire industry because tourism is especially vulnerable to economic uncertainty and volatility. Furthermore, all of the frequently used figures and indicators, such as arrivals and overnights, also reflect negative effects of the crisis.

The latest economic data, such as GDP, given by different countries and international organizations indicate that the world economy bottomed out and might now be starting to emerge from this unprecedented recession. But experts warn that recovery might be sluggish and some unexpected difficulties might occur along the way to recovery. Furthermore, unemployment that worsened quickly, including in many regions that had already been experiencing rising unemployment rates, will take much longer to rebound [4]. Misfortune never comes alone. Beginning in the spring of 2009, the worldwide outbreak of influenza A (H1N1) also hit both international and domestic tourism markets.

The recent trend in European tourism demonstrates the increasing importance of city tourism, especially due to the influence of conferences and meetings held in cities as well as people's growing desire to spend long weekends in cities. The German Federal Ministry of Economics and Technology (2006) conducted a study that determined that city tourism grew by more than 40 percent during the past 10 years, making it the largest growth sector. However, city tourism also faces a lot of challenges: climate change, demographic change and a variety of crises. During times of such uncertainty, what is the influence of the global financial crisis on European city tourism? How should destination management organizations (DMOs) in European cities plan future marketing and promotion strategies? How could an individual stakeholder in tourism, such as a hotel or a tour agent, adequately prepare for the future while in the midst of a crisis? There are many more unanswered questions related to decision making at different levels throughout Europe, as tourism is connected to many economic and social aspects of cities. Therefore it is very important as well as necessary to monitor the impact of the financial crisis; to forecast the future change in tourism demand; and to benchmark performance with other destinations both inside and outside of Europe.

As tourism demand is the most popular variable used both in academic research and real life, forecasting tourism demand becomes one of the most important and effective tools to help make better decisions. According to a recent comprehensive review on tourism demand modeling and forecasting by Song and Li (2008), 420 studies on this subject were published during the period between 1960 and 2002. They also reviewed 121 studies on the same topic from 2000 to 2008 and found that new methods and techniques were constantly created and tested in an effort to enhance forecast accuracy. It is obvious that the numerous models and tools, which have been established and tested repeatedly for forecasting tourism demand help to constantly improve the forecast accuracy. However, most of the methods and models are used for long-term forecasting and require a large amount of historical data. Also, the process of forecasting is time-consuming, which makes it difficult to carry out and impractical during a crisis or in a changing environment.

In this thesis forecasts of tourism demand in European cities are based on tourism experts' judgmental opinions, which are supposed to be a better alternative approach during this unique period for the following reasons. First, there is little

historical data available on tourism during the time of the crisis and also “every crisis is different” (Henderson, 2007). The forecasting period is not defined which allows judgments to be altered according to the need for short-term, medium-term or long-term forecasting, and finally, judgmental forecasts can be adjusted with time and when more information is readily available.

Therefore, an empirical study about experts’ judgmental forecasting of the impact of the financial crisis on European city tourism is carried out and tested in this thesis. The study is based on forecasts from a series of surveys conducted by European Cities Marketing (ECM) among tourism experts in its member cities. ECM is the leading network of City Tourist Offices and Convention Bureaus in Europe and has more than 120 members from more than 100 major cities in 32 countries. It offers a platform to share expertise, promote cooperation and link the interests of different cities in Europe in an effort to increase the number of visitors to city destinations through effective tourism and convention marketing [5].

In the following pages a review of literature on crisis and tourism is carried out first. Then there is a discussion of the different types of forecasting and their applications in tourism as well as of critical information and the forecasting providers. The empirical study of experts’ judgmental forecasting of the impact of the financial crisis on European city tourism is presented, and the forecasts are tested in the case of the ongoing financial crisis. Afterwards, a discussion about the findings from the study is presented, leading to the end that includes the conclusion and suggestions for improvement.

## **2. The importance of forecasting for the tourism industry**

Tourism has a long tradition in Europe, and it is also an essential part of the European way of life. The European Commission [4] has defined tourism as a strategic economic activity in the EU — the importance of which will continue to increase in the EU economy in coming years, especially since tourism contributes continuously to sustainable development, economic growth, employment as well as economic and social cohesion, all of which are main development objectives of the EU. Data show that “employment growth in the tourism sector has been significantly higher than in the rest of the economy in recent years, making the sector a significant contributor to the Lisbon objective to create more and better jobs” [4]. Germany also emphasizes the growing importance of tourism as a key contributor to economic growth in the country. In the publication the *German Federal Government Policy Guidelines on Tourism* (March, 2009), it is mentioned that “greater efforts are needed to impress on the public, policymakers and business and industry the role of tourism as a factor for Germany’s economy and its international reputation” [6].

Wöber and Fesenmaier (2010) also point out that more organizations and authorities have realized tourism’s potential to create employment, stimulate the economy and generate wealth. Not surprisingly, city tourism organizations are increasingly aware of the importance as well and have adjusted their functions accordingly. Bauernfeind et al. (2010) conducted a study to assess the significance of city tourism in Europe, as city tourism is a major part of overall European tourism. “There is little doubt that a high percentage of tourism volume and a much higher percentage of European business and professional travel volume were absorbed by European metropolises” (Bauernfeind et al., 2010, p.45).

As the contributions of tourism become more and more important for local economies, any kind of downturn in the tourism industry is cause for concern, not only for the people who work in or have close ties to tourism but also for relevant authorities and policymakers. Tourism is nearly about everything in a destination, covering a wide range of products and services while involving different stakeholders from both the public and private sectors. It is easily influenced by the changes experienced in any related industry or field and especially by the

economic environment.

The “good news” from past crises is that during other economic and financial crises, people did not stop traveling; however, they did change their habits and behavior towards traveling. Such as they stayed in their own country or traveled to closer destinations for holidays, chose less expensive offers and spent less money while traveling. If destinations could be able to predict this pattern of change in tourists’ behavior during a crisis and when the turning point might occur, then they could adjust their marketing strategy accordingly. This could mean that they focus more on domestic and neighboring tourists or a special segment of tourists who were not impacted as much; lower the prices to an acceptable level; and get prepared for the foreseeable rise in tourism in the future. Then the downturn experienced in the tourism market could be slowed down and even relieved to some extent, and recovery in the particular destination would be faster than others in general. The question remains: how to identify those new trends and patterns in an adequate amount of time? Forecasting is one of the best possible choices.

Forecasting is an important “weapon” in the “battle” against a crisis. No matter for which industry, during normal times it is always an important task for managers to control and reduce the risk in daily operations and implement policies which address future needs. One important and effective way is to forecast market demand for the future in order to react and prepare for what is expected to happen. This becomes more vital during times of crisis. Forecasting demand is exceptionally important for products and services with short or perishable lifecycles, such as fresh food and dairy products but also for tourism. Archer (1987) pointed out that forecasting accuracy is especially important and acute for the tourism industry because of the perishable nature of tourism. Unfilled airline seats and unused hotel rooms cannot be stocked as inventory. At the same time, a destination has to prepare itself simultaneously for different aspects as in the scenario when there is an approaching high season and an increase in demand in the long-term. Such situations require a focus on hiring temporary helpers in hotels and restaurants, enlarging the transportation capacity and rearranging routes in the short-term as well as building up new facilities based on long-term forecasting.

Although all industries face the threat of a crisis in different ways at all times,

tourism is more susceptible and vulnerable when compared to many other industries due to its special characteristics. Frechtling (1996, pp. 4-5) analyzes some major reasons in his widely influential book *Practical Tourism Forecasting*, which helps us to understand more about why forecasting is so important for tourism:

- *The tourism product is perishable, people have to make estimation for future demand to avoid both unsold ‘inventory’ on the one hand and unfulfilled demand on the other, and special price and promotion strategies can be made to avoid wasting;*
- *People are inseparable from the production-consumption process, as the production of the tourism product takes place at the same time as its consumption. So it is crucial to have enough service and personnel whenever it is needed;*
- *Customer satisfaction depends on complementary services, and forecasting can help ensure the complementary services are available when and where future visitors need them, which will benefit the tourism facilities by increasing the satisfaction;*
- *Leisure tourism demand is extremely sensitive to natural and manmade disasters, as natural and manmade disasters happen more and more often, the ability to forecast those events and possible impact on tourism demand can help minimize the adverse effects of catastrophes on tourism industry;*
- *Tourism supply requires large, long lead-time investment in plan, equipment and infrastructure, no matter a new hotel or a new airport. Future demand must be anticipated correctly when people make the investment.*

Supposing that forecasting of tourism demand is made for a certain destination during a certain period, what then should we do with the forecasting result? This question is fundamental since the application of the result is as important as the forecasting process. As early as in the year 1982, Van Doorn raised the question: whether future research could contribute to tourism policy. Two years later, he answered that question himself with: a system approach to tourism was linked to a typology of forecasting techniques. For policy makers working in a destination or

a hotel, simple forecasting results, such as how many tourists will come, when they will come and how much they will spend daily, are the most basic and also disclose the most important information. These results provide the needed proof to make different policy decisions under particular circumstances as “tourism flows have consequences for a wide range of different policy-making situation” (Van Doorn, 1982).

Witt and Witt (1995) explain that the different time horizons and levels of aggregation in forecasting are related to different types of decision making. For example, short-term forecasts are related to scheduling and staffing; medium-term forecasts are related to planning of tour operator brochures; and long-term forecasts are related to investments in airplanes, hotels and other infrastructure, which require greater amounts of money and time. Considering that there are different levels of forecasting, e.g. for a town, city, area, country, region and or even for the whole world, the focus should change depending on the level. This despite that the main purpose in tourism is the same around the world as mentioned before: attracting as many tourists as possible and also making them spend more time at a destination in a sustainable way.

### **3. Review of Literature**

#### **3.1 Crisis and Tourism**

With the rapid development of tourism in past years, the types of crises faced by the tourism industry in general have also expanded and diversified as they are caused by many different things such as natural events, economic and financial changes, political policies and acts of terrorism, environmental issues, health and disease, technological failure and other factors from within the tourism industry itself. Especially starting in the beginning of twenty-first century, crises have become more frequent, large scale and widely influencing, such as the September 11th terrorism attack on America; the bombing in Bali; the SARS outbreak; the Indian Ocean tsunami; as well as the recent global financial crisis and the influenza A (H1N1) epidemic. Most crises are hard to foresee and just a certain number of crises could have been predicted. For example, climate change and global warming allow people an advance period of time to get prepared, respond properly and implement effective strategies. Although a crisis could happen at anytime, anywhere and for many different reasons, history shows that tourism does not completely cease no matter what kind of crisis happens and how severe the crisis is, but the recession is unavoidable and it is difficult to predict how long the crisis will last or how broad its influence will be.

In his book *Tourism Crises*, Henderson (2007) analyzes the causes, consequences and management of tourism crises stemming from six major domains: economic, political, social-cultural, environmental, technological and commercial. He lists out more than 30 different kinds of threats, both external and internal, to the tourism industry all of which arise from the six explicitly stated domains. Further, he points out “Every crisis is unique and their characteristics, evolution and resolution are shaped by a multiplicity of forces both internal and external to the organization and industry” (Henderson, 2007, p.13).

Therefore, the management of a crisis is an important issue, especially the prevention of it that could reduce losses from the very beginning on. Henderson (2007) defines crisis management as the responses to a crisis by organizations and their attempts to execute some degree of control over its progress and outcome. It is a “battle” against the threats and difficulties, and it tries to minimize the

damages and dangers caused by the crisis.

However, most of the causes of a crisis in tourism come from external sources, which are very difficult for the tourism industry to prevent from happening or prepare for. Nevertheless, the tourism industry should be ready in the case of a crisis to react properly and in a timely manner. Among all the kinds of crises that have occurred, the economic and financial crisis has most greatly influenced the tourism industry. After all, tourism is an economic activity in itself although it also involves some non-profit organizations. As previously stated, the main goal of tourism is to attract increasing numbers of tourists and entice them to spend more money at a destination in a sustainable way. Therefore, the economic situation directly influences the tourism market, in demand and supply, as well as the many stakeholders in the industry. According to Henderson,

*“Characteristics of local, national and international economies and any alterations in them exercise a crucial influence on the tourism industry, which has its own internal economic dynamics. Depending on the nature of change, it will stimulate or depress demand in source markets and make destinations more or less attractive regarding prices and products... The health of an economy additionally helps to determine resources available for investment at home and abroad in the transport, accommodation and attractions sectors, which are essential to tourism... Income is a key variable of levels of participation in leisure tourism and there appears to be a close relationship between economic prosperity and a buoyant market...however, economic downturn can undermine demand and possibly result in crises for industries in origin and destinations countries if the slump is sufficiently intense or prolonged.” (Henderson, 2007, p.18)*

Additionally, Henderson (2007) also lists several examples of economic crisis and tourism such as the US recession which contributed to a decline in tourism in Hawaii from 1990 to 1993; Japan’s economic difficulties and how they had adverse consequences for its outbound tourism in the same period; and the Asian financial crisis of 1997 which brought damage to the tourism industry across the whole region as the crisis caused investors to withdraw funds, postpone planned investments in the region or channel funds elsewhere. Also, large-scale economic fluctuations could lead to unemployment because of both increasing prices and the rise of failing businesses.

By the end of 1997, Asian Pacific countries recorded an overall decline in arrivals and spending by both international and domestic tourists. Although some countries like South Korea and Thailand recorded an increase in volume, when the local currency was converted to US dollars the actual income was lower than previously thought. The purchasing power of the local currency and similarly of the Asian tourists, which accounted for more than half of the tourists in the region, had been badly hit by the crisis. Even though the number of tourists from America and Europe had increased slightly due to the sharply depreciated local currency, it is impossible for this alone to offset the general decline in demand and the recession that struck the region. However, after two years, most destinations in Asia started to recover from the hit and recovered to the situation of before. Some destinations even attracted more international tourists than they had before the crisis. “Nevertheless, tourism was revealed to be very vulnerable to economic change and its full recovery was also dependent upon economic improvement. Confidence in the region as a whole had been badly shaken and the crisis had a lingering impact” (Henderson, 2007, p.84). At the end of the book, Henderson points out “Crises assume a variety of forms and display differences regarding cause, length, scope and gravity with a range of complexity and severity...Crisis prevention, management and recovery therefore necessitate a team effort among and between the public and private sectors [...] strong centralized authority and direction are required to lead organizations and destinations out of crisis” (Henderson, 2007, p.278).

At the same time, there are other studies and literature reviews conducted and published on different crises and their impact on tourism that cover the topic of crisis management in the tourism industry. Blake and Sinclair (2003) analyzed the United States response to September 11th as a study of tourism crisis management, and they found out that “direct subsidies to the sector that is most severely affected by the crisis is the most efficient policy response [...] in the case of the September events, the provision of compensation to US airlines was the most appropriate policy.” Okumus et al. (2005) examined the impact of a specific crisis in tourism—Turkey’s economic crisis of February 2001 and its impact on Northern Cyprus, given that Northern Cyprus relies a lot on Turkey for both economic and political development. Several conclusions were drawn at the end including “the majority of the hotels in Northern Cyprus failed to predict the

economic crisis and therefore did not take any precautions [...] it is suggested that hotel owners and managers should be educated about how to predict and manage crises” (Okumus et al., 2005). Wang (2009) studied the impact of crisis events and macroeconomic activity on Taiwan’s international inbound tourism demand since different crises, including a financial crisis, earthquake and SARS, all happened in Taiwan quite often during recent years. The conclusion made by Wang (2009) is that “instead of passively waiting out a lagging economy, the industry should take a proactive approach [...] proper evaluations, pre-warnings and responses to disasters are important steps that may reduce the impact of such disasters.”

## **3.2 Forecasting and tourism**

### **3.2.1 Forecasting**

First of all, it is necessary to review what forecasting is: basically forecasting “takes historical fact and scientific knowledge [...] to create images of what may happen in the future” (Cornish 1977, p.51). Forecasting is also “fundamentally the process of organizing information about a phenomenon’s part in order to predict a future” (Frechtling, 1996, p.7). “A forecast is any statement about the future, and those statements may be well founded or lack of sound basis; may be accurate or inaccurate on any given occasion, or on average; precise or imprecise; and model-based or informal” (Clements and Hendry, 2002, p.2).

Although acceptance of forecasting as a science and its history as a topic for conducting academic research is not as long as that of many other fields, during the past century, the theories, techniques and methods of forecasting have improved constantly. Consequently, numerous books and research papers were published, focusing on different aspects in forecasting. According to Cox Jr. and Loomis’s (2006) review of textbooks for forecasting, the earliest “milestone” textbook was published in the year 1934 by Croxton and Cowden. The book, which marked the starting point of “state of the art” practices in forecasting, was written by Brown in 1959, although it only looked at the linear time-series model. Some later ones, such as Armstrong’s *Long Range Forecasting* (1978) as well as Makridakis and Wheelwright’s series of books, which include *Forecasting* (1979) and *Handbook of Forecasting* (1982) are also well know and frequently cited.

Recent books about forecasting include: Armstrong's book *Principal of Forecasting* (2001) which focuses primarily on research from 1960 onwards aimed at forecasting for different fields. The purpose of it is to "summarize knowledge of forecasting as a set of principles [...] represent advice, guidelines, prescriptions, condition-action statements and rules." (Armstrong, 2001, p.3) The book features contributions from more than 40 leading experts in forecasting and summarizes knowledge from experts as well as empirical studies, providing guidelines for various fields such as economics, sociology and psychology while covering different types of forecasting methods. The other book, edited by Clements and Hendry (2002), called *A Companion to Economic Forecasting*, recapitulates the developments and improvements made in forecasting in the last decade of the twentieth century: new models and techniques for generating forecasts; ways of understanding the reasons for forecasting failures in different economic environments; ways of comparing and evaluating the relative merits of different forecasting methods; ways of producing and evaluating more complete descriptions of the likely outcomes which also reflects a growing disenchantment with point forecasts; and a closer integration of the producers of forecasts and the requirements of consumers.

During the past decades, not only have great achievements been made in the research and study of forecasting, but also knowledge about forecasting has expanded quickly. The forecasting system is now well established and constantly improving. More and more forecasts are being done in totally different areas, such as weather forecasting, sales, political elections and hotel booking, but the accuracy has also improved over time.

Forecasting methods are frequently divided into two categories: qualitative method and quantitative method (Frechtling, 1996) or judgmental method and statistical method (Armstrong, 2001). Quantitative methods organize past data and information about a subject using mathematical rules which need a certain amount of historical data and suitable models to be able to analyze the data in order to find out the regular pattern and then calculate possible results for the future. Qualitative methods, also called "judgmental methods", mean that past information about the forecast variables combined with the current conditions of the variables are organized by experts using their own judgment rather than mathematical rules (Frechtling, 1996). Although Armstrong did not provide the

definition for the two categories of methods, he created a Methodology Tree for characteristics of forecasting methods and their relationships, which give a clear picture of the different methods, and their relationships (2001, p.9). Song [7] summarizes the classification of the major methods on the website of Forecasting Principles ([www.forecastingprinciples.com](http://www.forecastingprinciples.com)) and also explains the frequently used models. The following table (Table 1) shows the different classifications of forecasting methods by Frechtling, Armstrong and Song.

	<b>Qualitative/ Judgmental</b>	<b>In between</b>	<b>Quantitative/ Statistical</b>
<b>Frechtling (1996)</b>	Jury of Executive Opinion, Subjective Probability Assessment, Delphi Method and Consumer Intentions Survey		Extrapolation Models and Casual Methods
<b>Armstrong (2001)</b>	Role Playing, Intentions, Conjoint Analysis, Expert Opinions, Judgmental Bootstrapping	Analogies, Rule-Based Forecasting, Expert Systems	Extrapolation Models, Multivariate Models, Econometric Models
<b>Song [7]</b>	Delphi Methods and others	Combining methods	Time-series Models, Econometric Models and other quantitative models

**Table 1: Classification of Forecasting Methods for Tourism Demand**

Fildes (2006) conducted a research project about the contribution of forecasting journals through citation analysis and identification of influential forecasting articles and books by using citations as well as expert analysis. Since the establishment of the *Journal of Forecasting* (JoF) in 1982 and the *International Journal of Forecasting* (IJF) in 1985, the International Institute of Forecasters has “promoted, encouraged and led the continuous research and exploration in international forecasting in order to become the principle outlets for publishing all aspects of forecasting research” (Fildes, 2006). Since this time, a wide range of topics and methods have been discussed, used and tested, including “econometrics, time serious, segmentation, extrapolation, input-output, simulation and judgment.” (Fildes, 2006) However, at the end of Fildes’s research, he concludes with Armstrong’s review stating that “while many areas of forecasting have developed methods which have proved successful in empirical research, few of them have

been widely adopted. This failure to adopt well-documented improvements demonstrates that the gap between research and practice remains wide.” It means that, compared to the fruitful research results, the application of those results in real life is much less efficient. The reason could be that too much focus is put on improving the forecasting accuracy instead of considering whether a method or a model is realistic and easy to apply in practical business, especially for those quantitative models that involve large amounts of data and complex calculations. Therefore in this thesis the emphasis is on the qualitative approach.

### **3.2.2 Judgmental forecasting**

Judgmental forecasting has always been a very important method used in many different business sectors especially for economic purposes. It is believed that “Human judgment permeates forecasting process [...] judgment may be used in identifying the endogenous and exogenous variables, building structural equations, correcting for omitted variables, specifying expectations for economic indicators, and adjusting the model predictions in light of new information, official announcements, or “street” talk.” (Thomson et al. 2002, p.133) Before the development of any other kind of method or model for forecasting, people only used their judgment to give estimates of future business and market demand, deciding directly based upon individual experience and personality. The systematic and scientific study and research of forecasting do not have a long history in comparison to many other fields or subjects. Even after applying quantitative methods for forecasting, judgment still plays an indispensable and essential role in the process of forecasting, as there is no alternative to judgment. In other words “serious forecasts are seldom entirely subjective, never entirely objective [...] even the most automatic (or “objective”) forecasting requires some exercise of judgment: someone must choose the model, set its initial parameters and decide whether to use its result” (Fischhoff, 1988).

As judgmental forecasting combines experts’ opinions, experiences and expertise, it can be applied in many different situations regardless of the availability of related data and information. Thomson et al. (2002, p.134) also mention “judgmental forecasting covers extensive base, ranging from situations where there exists no quantifiable information so that the forecast is based exclusively on

judgment, to cases where judgment supporting the model building phase and/or fine tuning the given predictions.” This means that in particular situations, when there is neither historical data nor information to use for predicting the development and result of the situation, people have to make judgments on their own. Under other circumstances, when the quantitative approach can be used, people still need to evaluate the whole situation and decide which method to use and even revise the forecasting result if conditions have changed during the process. According to Thomson et al. “Judgmental methods are also stated to add a common sense element to the forecast, creating a sense of ownership” (2002, p.133). Also, forecast users prefer to use judgmental methods in real life situations since they believe they are easier to implement.

The academic attitude towards the role and the place of judgment has undergone a significant transformation in the past 25 years, and there has been a phenomenal growth of interest in judgmental approaches to forecasting recently, which was pointed out by Lawrence et al. (2006) in their review of judgmental forecasting over the same period of time. The review also mentions that it used to be commonplace for researchers to warn against judgment and to perceive judgment as the enemy of accuracy, but there is now an acceptance of its role and a desire to learn more about how to blend judgment with quantitative methods in order to make the most accurate forecasts. Similarly, much research attention has been directed at understanding and improving its use since “Human judgment can be demonstrated to provide a significant benefit to forecasting accuracy but it can also be subject to many biases” (Lawrence et al., 2006). The combination of quantitative methods and judgments is adopted and demonstrated quite often.

However, we should always keep in mind that the purpose of forecasting is to find out the most likely outcome in the future, no matter which method and model is chosen. The accuracy of the forecasting result, ways to improve its accuracy in the future and whether forecasting can be easily applied in real life situations deserves much of our attention. Some recent research shows that the integration of qualitative and quantitative methods would lead to more accurate forecasting results by combining software with human judgment.

Based on academic research that focuses on short-term forecasting, the topics mostly include weather conditions, electricity and energy demand in the short-

term and traffic flow in the coming days. As it is very important to be fully prepared for what could happen in the near future, it is necessary to consider energy supply levels, make preparations to handle sudden changes in the weather as well as devise solutions to alleviate traffic caused by holidays or special events.

### **3.2.3 Forecasting in Tourism**

Witt and Witt (1995) made a review of empirical research in tourism demand forecasting and pointed out that in actual life, most articles in tourism demand forecasting studies are using econometric models and some other quantitative forecasting tools such as spatial models or time-series methods. Time-series methods are often used to compare the performance of the forecasting results of different models. In Song and Li's (2008) review of tourism demand forecasting for 2000, major findings include information indicating that the majority of published studies used quantitative methods to forecast tourism. These methods can be divided into three major categories: non-causal time-series models, the casual econometric models and other emerging methods such as artificial neural network and Genetic Algorithms methods. The difference between time-series models and econometric models is whether the forecasting model identifies any causal relationship between the tourism demand variable and its influencing factors. Out of 121 studies, 55 conducted forecasting competition among different methods. For example, Kulendran and King (1997) used five different models to forecast international quarterly tourist flows from the major tourist source markets of Australia. However, although their finding is nothing surprising, what is unexpected is that "the relative performance of each model varies from country to country." Burger et al. (2001) also applied eight different kinds of models to forecast the US demand for travel to Durban, South Africa, and their study shows that the neural network method performs the best. Song et al. (2003) tested the accuracy of six alternative econometric models for forecasting international tourism demand in Denmark, and two univariate time series models were also used for benchmarking purposes.

As one of the causal methods, econometric models carry a major advantage in that they are able to analyze the quantitative relationships between tourism demand (dependent) and its influential factors (determinants) by using historic data (Song

and Li, 2008). The selection of the explanatory variables in tourism demand forecasting becomes crucial as it influences the forecasting result directly. In a normal study of demand, price and income are always the most popular choices in which variables to use (Kulendran and King, 1997). Meanwhile, some other factors are also influential and should be taken into consideration such as the population and demography of the market, culture and mentality of the people and the economic situation of the region.

In the area of tourism, the cost of transportation, destination-level price, the tourist's income level and proportion of disposable income are the most often used criteria. Other important variables include the population size of the source market, accessibility of the destination, exchange rate, boarder control policy, international and political issues as well as availability of substitute or competitive destinations (Song and Li, 2008; Li et al. 2005; Witt and Witt, 1995). Witt and Witt (1995) conducted a detailed analysis of the main empirical econometric studies of tourism demand which have been published since the 1960s and explained how the variables, such as population, income, price, exchange rates, substitute prices, as well as the qualitative effects such as trend, marketing and promotion strategy influence international tourism. Witt and Witt (1995) conclude that models became more complex over time, including in terms of the explanatory variables included.

However, the purpose of tourism varies considerably from traditional leisure and business tourism to the comparatively new educational, medical and dark tourism—additional categories of tourism continue to develop. The factors and elements making up the explanatory variables are not always the same for the different types of tourism. For example, a certain econometric model that captures the structure of tourism in one destination or region might not be applicable to another destination despite a lot of similarities between the two destinations. Choosing the variables to be used for the model is a subjective process, although the econometric model itself is an objective one.

For tourism, normally much attention is paid to long-term forecasting because investments in tourism are normally carried out over the long-term and therefore require advance research and planning. However, there are an increasing number of researches, which deal with short-term forecasting of tourism demand.

Athiyaman and Robertson (1992) applied seven different time-series models to generate one-month and 12-month point forecasts of the number of tourists from Thailand traveling to Hong Kong, and they found that simple techniques are as accurate as complex ones and often more time- and cost-effective than the complex models. Coshall (2003) also mentions the unique effects mega-events and terrorist attacks have on short-term demand of tourism. Smeral and Wüger (2004) discuss the influences of calendar effects and also unknown special events, including special holidays with “unfixed” dates, on short-term tourism demand. Their solution is to use a combination of complex data adjustment methods and adequate model structures which permit including the most influential factors of influence. However, the purpose of their study seems to prove “complexity clearly does matter” in the process of choosing forecasting models.

There is no doubt that the complexity of a model and the accuracy of the forecasts are positively related under most circumstances; however, at the decision making level in tourism, how does this conclusion help managers dealing with real world situations? Will policy makers or local service suppliers accept the complex models and methods to conduct forecasting, especially during times of financial crisis and the uncertainty of limited budgets and staff? Normally, the answer is no when these scenarios become reality. It is more reasonable to assume that the majority of policy makers and stakeholders in tourism would be more likely to choose a simple and quick way to find out possible market trends and change of demand in the short-term and even medium-term.

#### **3.2.4 Judgmental Forecasting for Tourism**

Over time, the decision making process has not become easier or simpler than before which was supposed to be the case with considering how much more information is available and the fast development of software, models and methods. The reason is simple: living in a time when technology is developing rapidly, many people are confronted by information overload from different sources. So when people have to make a decision, there is the possibility that there is too much information to choose from, making it is very hard to decide which deserve more attention. In the end, people still have to use their own judgment of the current situation, their knowledge and experience. This is also applicable to

forecasting tourism demand.

Expert's judgmental forecasting, or the jury of executive opinion, is one of the four qualitative forecasting techniques mentioned by Frechtling (1996). The other three techniques are: subjective probability assessment, Delphi method and consumer intentions survey. Although all of the four methods depend on individual opinion and experience, the differences among them include "how the judges are selected, what information is provided along with the questions, the degree of interaction among judges, and how the judges' reports are processed to obtain the final forecasts" (Frechtling, 1996, p.180).

In the tourism industry, the evolution of forecasting is similar to its general development. Attitudes toward judgmental forecasting have gone up and down, depending on the macro-environment and concrete situation. However, it remains known that judgments are irreplaceable in any forecasting process. After the development of more than half a century, a large variety of theories, methods and models for tourism forecasting were established, discussed and tested. Along the process, much effort was made to compare the characteristics, differences and accuracy of different forecasting methods and models, which normally are time consuming and require a large amount of historical data. Except that, most of those models are quantitative ones and are often used for long-term forecasting of tourism since in the long run, like the economic situation, the general trend can be properly captured by well established models and forecasting systems.

However, Frechtling (1996) mentions that there are some unique difficulties in tourism demand forecasting such as lack of sufficient historical data, especially given that some destinations and even countries do not have systematic or constant data collecting methods. Tourism demand can be volatile since it is influenced by many different factors from various fields. Also, tourism demand is sensitive to catastrophic influences and crises, and tourism behavior is complex. The accuracy of quantitative models is largely undermined by those difficulties mentioned above and some other uncertainties. Therefore, managers and decision makers in the tourism industry still have to find ways of addressing these difficulties in their work, judging the market trend and making decisions on their own.

During the time of crises and uncertainties, it is better to choose simple, fast and

easy-operating approaches and methods to forecast the future demand of tourism. This would eliminate the complex steps of determining variables, choosing the model, finding the data, calculating and testing. Therefore, qualitative forecasting methods are normally applied under one or more of the following conditions: there are insufficient historical data; the time series available is not reliable or valid; the macro-environment is changing rapidly; or major disturbances are expected (Frechtling, 1996).

The current situation in the tourism industry meets at least two of the above conditions: the macro-environment is changing rapidly and major disturbances are expected, not only because of the on-going global financial crisis but also the outbreak of influenza A (H1N1); pressure to address climate change; and occasional explosions or attacks due to political instability just to name a few. Expert's judgments are expected to play a more important role and offer better forecasts under the current circumstances.

During a period of global recession, nobody can tell exactly how long it will take to get back on the right track and for everything to return to normal. There are still a lot of uncertainties ahead of us in the near future, both caused naturally and by human beings. These uncertainties are impossible to capture using "dead" models. Many researchers have been aware of this problem for quite a while. Armstrong (1978) said those simple models are "cheaper, easier to implement, and often more accurate than complex models. But the big money goes in to more complexity." Van Doorn (1984) also mentions that "the use of simple forecasting techniques proves, in general, more accurate than the use of a more complex technique." He further explains the reason why experts go to all the trouble and make things more complex when it is not really necessary to do so: as an expert or a policy-maker, he or she needs to show the capacity and impress others, as a large model means prestige; and it also could produce more knowledge and show more insight as the outcome of a large investment; with a large and complex project, more people are involved and it could lead to more commitment from staff (Van Doorn, 1984). In conclusion, recruiting ability, presentation, status and participation could be the reasons of why experts or policy-makers would like to apply complex models in researches. However, the original purpose of forecasting is diminished or even forgotten during that process.

Another advantage of judgmental forecasting during the financial crisis is that the forecasting can be adjusted with passing time, as most forecasters have access to the latest results from the market, making them aware of some factors which could change the result in the near future. This is typical in tourism since upcoming events, festivals and conferences as well as the introduction of related policies in tourism could steer the result in a completely different direction. The forecasters are supposed to capture those latest changes, no matter internal or external, and be able to easily adjust their expectations in time. Some of the quantitative models also can be adjusted in time to generate new results; however, it might take a lot of work to renew the model and it might not be helpful in practical terms for policy makers working in uncertain environments.

However, we also have to be clear of the disadvantages in using experts' subjective opinions. Although they have the required experience and expertise, and they can sense changes in the environment and react promptly, human judgments are also subject to many biases. Frechtling (1996, p.182) points out "error can arise due to the lack of expertise or bias of chosen judges, the human tendency to confuse desires for the future with forecasts of it, and judges' predisposition to be anchored in the present and underestimate future changes [...] the most damaging is that often the most forceful or most senior executives' opinions carry the most weight [...] yet those may not have the best ability to describe the most likely future."

In this thesis, the focused method is expert's judgmental forecasting, as it requires a certain level of expertise and experience necessary for carrying out the forecasting of tourism demand in this field. Undoubtedly, those experts' judgments influence policy and marketing strategy, directly and indirectly, in their destinations.

### **3.3 Who is providing information and making the forecasting now?**

Before presenting the case study, it is necessary to define what the overall current situation of the tourism industry is; who is taking on the role to provide and update data and information about the industry; who are the people making the forecasts for the tourism industry as a whole; and what kind of method is used for forecasting?

Since the very beginning, managers of airlines, hotels and restaurants realized clearly the benefits of accurate forecasts. For more than thirty years, many large companies in the tourism industry, no matter hotel chain or airline, have generated forecasts for the demand of hotel rooms and flight seats for different time periods, enabling them to adjust price strategies in order to maximize their profits. However, those forecasts are only for internal use and the results are not accessible by others. Nearly 15 years ago, Witt and Witt (1995) noticed that most tourism forecasts were produced by commercial organizations, and most forecasts were on a country-to-country level. At that time, there was no standard supplier of forecasts to the tourism industry, which created difficulties and obstacles for coordination and cooperation within the industry and even prevented the swift development of tourism as a whole.

Recently, Ostertag and Wöber (2010) conducted a study about tourism statistics in European cities, mentioning how governments, official tourism organizations at different levels and major enterprises in tourism and transportation have similar needs for unified and comparable data, not only for the current structure of the industry but also future trends. This means more and more stakeholders have realized the importance of statistics and forecasting for tourism. Due to the contributions of academic researches about various forecasting methods, a large amount of forecasts at different levels and time horizons are produced for tourism around the world, and the forecasting results are also applied in real life situations.

### **3.3.1 UNWTO**

Without any doubt, the United Nations World Tourism Organization (UNWTO) plays an important leading role in the global tourism industry and related forecasting. Especially during a global crisis when UNWTO initiates specific actions to fight against the adverse effects of the crisis among its members through: gathering worldwide tourism data; issuing reports and latest news; organizing its members to share information; fighting against crisis through its Tourism Resilience Committee (TRC) founded in October 2008; and forecasting global and regional tourism. The establishment of TRC was a response to unify its members and help aid in the recovery of the tourism industry. As mentioned on its website, TRC will “support the tourism industry in the face of global economic

slowdown; collect and analyze economic and industry data to provide real time market information; encourage the exchange of information, experience and good practice regarding response measures” [8].

In UNWTO’s recent issues of *Barometers*, the performance and situation of global tourism since the beginning of the financial crisis is accurately described with the following:

*“Tourism, though resisting better than other sectors has not been immune to the deteriorating economic situation. After a very sound start, with worldwide growth in international arrivals averaging nearly 6% in the first six months of 2008, demand fell harshly – by 1% between July and December 2008. However, the negative trend in international tourism that emerged during the second half of 2008 intensified in 2009 under the impact of the rapid deterioration of the world economy, combined in various destinations with the effects of the influenza A (H1N1) outbreak from this spring. Based on preliminary results from about 140 destination countries, international tourist arrivals worldwide declined by 7% from January to August 2009, compared to the same period last year.*

*In absolute terms, the number of international tourist arrivals worldwide reached 500 million in the first seven months of 2009, down from 540 million in the same period of 2008. Arrivals in 2009 are currently between the levels of 2007 and 2006. The first seven months of the year generally account for roughly 57% of the total annual number.” [9]*

TRC issues and updates the *Tourism and Economic Stimulus – Initial Assessment*, a publication that provides information on the response measures being implemented by countries around the world to mitigate the impact of the economic crisis on tourism. A roadmap for recovery was also developed by TRC, including a set of 15 recommendations based on three interlocking action areas: Resilience – Stimulus – Green Economy—aimed at supporting the tourism sector and the global economy [8].

In regards to forecasting, UNWTO also contributes great efforts. Since June 2003, it has been issuing the *World Tourism Barometer* three times a year. The publication aims at monitoring the short-term evolution of tourism and provides the sector with relevant and timely information. The *World Tourism Barometer*

lists up-to-date information about tourism performance and global as well as regional market trends; gives comparisons between the current and same period of the previous year; and makes forecasting of global tourism. With the influence of the financial crisis, trends in world tourism fluctuate more than usual. For this reason, in April and September, two issues of an interim update were published to bridge the gap between the full editions.

Then how does this widely influential organization in tourism make the forecasting for the whole year? The answer is experts' judgments. Its tourism forecasts for the whole year are based on UNWTO's Panel of Tourism Experts, and the methodology of the forecasting process is introduced in *Barometers* [9].

### ***UNWTO's Panel of Tourism Experts and UNWTO Tourism Confidence Index***

*UNWTO Tourism Confidence Index is based on the results of an email survey conduct by the UNWTO Secretariat among selected representatives of public and private sector organizations participating in the UNWTO Panel of Tourism Experts. The survey has been repeated every four months since May 2003 in order to keep track of actual performance, as well as perceived short-term prospects, of the tourism sector. This allows performance and prospects to be compared over time, as well as providing a comparison of the actual performance of the past four months earlier. Results are also broken down by region and sector of activity. There breakdowns should, however, be interpreted with caution as they may in some cases be based only on a relatively small number of responses.*

*The UNWTO's Panel of Tourism Experts is asked every four months the following two questions:*

- *What is your assessment of tourism performance in your destination or business for the four months just ended (or about to end) as against what you would reasonably expect for this time of year?*
- *What are the tourism prospects of your destination or business in the coming four months compared with what you would reasonably expect for this time of year?*

*Participants should select one of the following five options: much worse (0), worse (50), equal (100), better (150), much better (200). Results are averaged and*

*broken down by region and by activity as the Tourism Confidence Index.*

The experts chosen by UNWTO are from both public and private sectors of tourism, which helps to ensure that opinions and perceptions from totally different angles in terms of geography, mentality and working focus are provided. The results of its latest survey (issued in October 2009) express the perceptions of 330 experts from more than 100 destination countries. Those experts are asked the same questions three times a year, allowing them to adjust their judgments and predictions and make their latest estimation according to the current market and environment. The results are broken down by region and sector of activity that make the results more specific and reliable. The regions are divided into: Africa, America, Asia & the Pacific, Europe, Middle East and Global Operators. The sectors include: public and private; destinations; transport; accommodation and catering; tour operator and travel agents; general industry bodies and other; consultancy; and research and media.

### **3.3.2 TourMIS**

TourMIS is a Marketing-Information-System for tourism managers [10] established in 2000 in Austria. Since its inception, it predominantly provides free general data of major European cities and countries (normally to the members of ECM and ETC). As well it offers different tools to “transform data into precious management information to all authorized tourism organizations, societies, tourism consultants, companies, tourism training centers, pressure groups, etc. The major aim of TourMIS is to provide information and decision support for tourism managers and scholars” [10]. For example, users can find overnights and arrivals of a market in all cities or in a city by various markets for different time periods as well as the number of visitors for major attractions and sites. New functions continue to be developed such as those in forecasting and others that examine aspects of expenditures.

### **3.3.3 Other Sources**

In addition to UNWTO, some other international organizations and companies also compile data and statistics as well as provide insight and forecasts for the coming future such as the International Air Transport Association (IATA) and Deloitte. At the regional level, information and data providers include the Organization for Economic Cooperation and Development (OECD), the Statistical Office of European Communities (EUROSTAT), Pacific Area Travel Association (PATA), European Travel Commission (ETC) and others (Ostertag and Wöber, 2010).

ETC publishes quarterly reports for European tourism—including trends and prospects mainly in the European tourism market and also some worldwide facts and trends. The data sources used by ETC include: UNWTO's reports; TourMIS; IATA; HotelBenchmark Survey; National Tourism Organizations (NTO); and an Oxford based commercial company called Tourism Economics. The forecasts and projections from ETC are based on a fusion of different information, sources and opinions, which also demonstrates a process of judgmental forecasting by experts' choices and filtering of information.

## 4. Experimental Study

The following empirical study is made to test whether a group of European tourism experts can predict the development of tourism demand for their destinations during the period of the current global financial crisis by evaluating the quality and accuracy of their forecasting results. The forecasting is based on a series of surveys initiated by European Cities Marketing. In order to test the quality and accuracy of experts' opinions, the forecasting results are compared to the actual data from TourMIS and UNWTO in addition to the forecasts made by UNWTO's Panel of Tourism Experts. Then conclusions about the quality of the forecasting in addition to suggestions about how to improve the accuracy of judgmental forecasting and how to use those forecasts will be given at the end of this thesis.

### 4.1 ECM and the Survey

The judgmental forecasting is reported in a series of quarterly surveys initiated by ECM among its member cities. The purpose of which is to monitor the impact of the financial crisis on the number of bednights in its member cities and other important figures such as hotel room price and the estimated change in total overnights for the year. As the tourism industry is very important for all European countries and also contributes to the European Union's objectives for future development, it is necessary for tourism organizations to follow and forecast change in the tourism market at different levels. A brief introduction of ECM will help give a better understanding of its reasons for initiating the survey:

*“European Cities Marketing is the leading network of City Tourist Offices and Convention Bureaus for sharing expertise, working together on an operational level, and having business opportunities. ECM is promoting and linking the interests of more than 120 members from more than 100 major cities in 32 countries. Its objective is to increase visitors to city destinations through effective tourism and convention marketing. Until November 2009, EMC has 124 member cities, and the number is still increasing.” [5]*

The survey is conducted quarterly from opinion polls based on a panel of experts in European city tourism, and each member city is invited to participate with up to

four experts. Experts answer the questionnaire via the Internet (SurveyMonkey), the results are analyzed and the main findings are written into a report to be sent to participants after each survey.

The first three surveys were conducted at the end of March, June and September of 2009, and the fourth survey, also the latest one, ended in the middle of January 2010, allowing additional time to compensate for the Christmas and New Year's holidays. Each survey gives the participant approximately two weeks to reply, which means some people answered the survey before the start of the focused quarter and some answered at the beginning of the focused quarter. The focus of each survey is primarily on experts' expectations for the current or coming quarter and then for the whole year of 2009 and 2010. In other words, the focus is experts' judgmental forecasting of tourism demand for the short-term (three months).

#### **4.1.1 The Participants**

In judgmental forecasting the participants making the forecast is the most important element as they influence the forecasting result directly. Webby and O'Connor (1996) indicate that the experience possessed by the forecasters include two major aspects: technical knowledge and causal knowledge. Normally those two aspects cannot be separated and analyzed individually as judgmental forecasting is a subjective process. Those participants are supposed to be the experts in that particular field and also are thought to be able to make the most responsible and accurate estimation. However, there are no standardized criteria to determine if the way experts reach their estimates is good or bad.

As judgmental forecasting is a personal, psychological process, some people might get a result according only to their experience and instinct without thinking too much, in one word—subjectively. Whereas some people like to get as much information as they can, then evaluate and think everything through and make the conclusion, in one word—objectively. There are also people in between who make a decision according to the immediate situation. There is no right or wrong type of decision process because everyone is unique and has varied abilities and capabilities. In this case study, how the participants form their judgments of future tourism demand for the city is not the focus, and no further analysis will be dedicated to this aspect.

Motivation of the participants also affects the quality and accuracy of the forecasting which is not difficult to understand why. When people have a high motivation, no matter what the reasons for it are, they will pay more attention to the task, get more involved in the process and carefully make the estimation based on their experience and available information. Webby and O'Connor (1996) further explain, "Motivation refers to the environmental characteristics that induce rigor in the application of a forecaster's selected strategy." Based on many researches, they listed out four motivating characteristics:

- *The extrinsic benefit of making an accurate forecast;*
- *Whether the forecast will be revisable in the light of further information before accuracy is assessed;*
- *Whether the forecast is perceived to be within the judge's area of competence, i.e. whether the judge's reputation is on the line, and*
- *The adequacy, reliability and understandability of the information-motivation will be higher with quality information, because there will be "no obvious excuse for inaccuracy."*

As the surveys in this case study are carried out anonymously, there is no competition to determine who the best forecaster of tourism in European cities is. Therefore, there is not much extrinsic benefit; instead, the survey here is more like a platform for sharing opinions on future demand of the tourism market and a way to improve knowledge about European city tourism. Nevertheless, participants can still test their own predictions later with the actual data of their city to become more aware of their ability in forecasting. At the end of each survey, a summarized report is made and sent to all participants so that they can use it in their work, helping them make future decisions. For the second characteristic, as it is a series of surveys and conducted quarterly, the respondents can revise their estimations and give different forecasts in each survey according to the current situation and latest information. All survey participants are working in the tourism industry and most of them in DMOs. Although it is hard to tell whether their reputation is on the line or not, they are supposed to have the required competencies given that tourism is their area of expertise and specific field of work. They are also supposed to have a good understanding of related information and the market, choosing the right data and facts for making forecasts.

The survey participants are mostly from different DMOs in ECM member cities such as city or regional tourism offices or boards, convention centers, and ministries or government departments of tourism. They live in the city and work in tourism within the city. Most of them are clear about the overall situation or even have responsibilities for promoting tourism inside the city. They also have first hand information about what is happening and going to happen in the city such as big events and conferences, and some of them even participate in planning the coming events or festivals or in deciding the promotion strategy for city tourism. Additionally, they have an overall understanding of the tourism environment since they get updated information from ECM, UNWTO and other organizations on a continual basis. Therefore, they are assumed to be the experts in tourism, at least in respect to their city.

However, it is neither wise nor accurate to assume that all of them are experts of city tourism, as it is undeniable that they have different levels of experience and expertise in tourism in general. However, their understanding, estimation, perception, judgment and decisions do influence the marketing strategy and future policy in city tourism directly or indirectly, all of which depends on their level of authority and their organization's operating system. Above all, most of them participate on a practical level in the decision making process and their judgments therefore do have an influence on real work. Then what is the accuracy of their estimations in general? Are they the real experts and are their opinions on city tourism reliable? The series of surveys are going to test and answer those questions.

#### **4.1.2 Questionnaire**

The questionnaire was designed by ECM. In total there are eight questions in each survey. The first three questions ask for basic background information about the participants including the name of the city, the type of working organization and the function the individual has in his or her respective organization. All this information provides important data to be used to analyze the answers to the other five questions if needed. Since members of ECM are almost all coming from either a City Tourist Office (CTO) or Convention Bureau, the choices provided to indicate the type of organization are CTO, Convention Bureau and other. It is

assumed that all of the survey participants are tourism experts in different areas related to city tourism therefore the functions listed in the survey question are CEO, Marketer, Researcher/Analyst and other. These positions are usually assumed by persons knowledgeable of the tourism market inside the city; the latest changes and trends; current data in tourism; and also other sectors or events that could influence the tourism market.

The other five questions are about or related to bednights. As mentioned before, tourism demand is the most popular variable for measuring the tourism market which normally includes two kinds of data: arrivals and bednights /overnights. In this survey, bednights is used as a main indicator since the average price for a hotel room in a city is normally already available, allowing for a general estimation of the expenditure in accommodation inside a city to be easily calculated.

There are three questions directly about bednights, two focusing on the coming or current quarter and one about the estimated change in bednights for the whole year. The question relating to the whole year is the only one in the questionnaire, besides those asking for basic information, which is kept the same in all of the surveys, giving the experts the opportunity to modify their estimates of bednights for the whole year as time passes by and more actual data is made available. The two questions about quarterly performance of bednights are broken down into different segments of tourists (e.g. leisure, MICE non-corporate, MICE corporate and individual business travelers) and source markets (e.g. total, domestic, international, American, British, French, German, Italian and Spanish).

The last two questions are about expectations of the change in hotel room price in the upcoming or current quarter and the key factors that could influence the total bednights in the city. The first question shows the expected change in hotel room price which is as important as hotel bednights since it is those two factors which together mainly decide the total revenue in accommodation. The last question in the survey is the only open-ended question, and it invites the participants to list out various factors that in their perspective can influence the change of bednights in the city and give details explaining the reasons why.

Of the eight questions, three of them are about comparisons between participants' estimations for the current or upcoming quarter of the year with those for the same

period in the previous year. There is a six-point scale provided to choose the answer from: Significantly higher (more than 5%); Higher (between 1% and 5%); Approximately the same; Lower (between -1% to 15%); Significantly lower (less than -5%); and Don't know.

The choices for answering the question about the change in total hotel bednights are from "+15% and higher" to "-15% and lower" and each percentage value in between is made an option. The integrated questionnaire is available in the appendix of this paper.

#### **4.2 Analysis of Forecasting Result**

The results from the survey are analyzed question by question in order to compare the changes in the results of all the surveys.

##### *Question one: Name of your city/organization*

On the whole, forecasting is based on the judgments of the experts; therefore, the composition and structure of the group of experts is an important element that decides overall forecasting results. Which cities participated in the surveys changed over time. Since the survey is not a compulsory requirement from ECM, the member cities can decide by themselves whether they participate or not and how many experts will complete the questionnaire. For this reason, the participating cities and number of experts varied. During the period when the surveys were executed, new cities in Europe joined ECM and became members as of March 2009; they were also invited to take part in the survey.

For the first survey in March, ECM invited all of its 117 member cities with up to four experts to participate, which means that there were potentially 468 experts. The results show 23 percent of the experts completed the survey, and just two cities, Amsterdam and Oslo, had four experts who answered the questions. The percentage of participating cities out of 117 member cities was 64.

For the second survey conducted in June, there were two new cities (Chester and Devon), which joined ECM and all of the then 119 member cities were given the chance to provide their estimates. In total, 47 percent of the 119 cities participated in the survey (with at least one expert per city), which indicates a lower response rate than the initial survey's rate of 64 percent. As to the number of participating

experts, 16 percent of the potential 476 experts finished the entire survey, and only Copenhagen returned responses from four experts. The participation rate dropped obviously, both in the number of cities and the number of experts. One probable reason for the decreased response rate could be that since June marks the beginning of high season for many destinations, organizations might have been busy at that time of the year and also it might have been difficult to reach some experts who were on holiday.

By the time of the third survey, five new cities—Cardiff, Innsbruck, Lulea, Northern Ireland and St. Petersburg joined ECM, and the total number of invited cities increased to 124. In total, 52 percent of those cities participated in the survey (with at least one expert per city) which is 5 percent more than in the second survey but still lower than the first survey’s 64 percent. In total, 89 experts completed the questionnaire. Among participating cities, only Tampere returned responses from four experts.

The number of cities invited to participate in the last survey in January 2010 is the same as in the third survey. However, the participation rate is the lowest of all four surveys, irrespective of the initial number of potential cities or participants. In total, 41 percent of the potential 124 cities took part in the survey, and the ratio of participants is only 14 percent. The number of cities that contributed decreased with each survey: 46 cities took part in the first two surveys, 34 for the first three and only 26 cities completed all four surveys. A detailed comparison of the participating cities and number of experts per survey is listed in Table Two.

<b>Number of Participants per City</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>Total potential Participant cities</b>	<b>Ratio of participants</b>
<b>Mar. 2009</b>	2%	2%	19%	41%	36%	117	23%
<b>June 2009</b>	1%	2%	9%	35%	53%	119	16%
<b>Sep. 2009</b>	1%	2%	13%	36%	48%	124	18%
<b>Jan. 2010</b>	0	3%	9%	29%	59%	124	14%

**Table 2: Structure of Participants**

*Question two: For which type of organization do you work? (several answers possible)*

The type of organizations participating in the surveys did not change much from survey to survey, according to the results. Each time CTOs and Convention Bureaus account for around 90 percent of the organizations represented in the survey, and in some cities the same organization is listed more than once. From the specified “other” answers, experts mainly work for national or regional tourism offices; service providers like ports or airports; and touristic sites of a city. No matter if from a CTO, Convention Bureau or other service provider, participating experts work on or directly connected with the front line of tourism inside a city. The expertise of people who work on the front line of tourism is particularly important for assessing changes in the local tourism market and estimating trends in tourism demand for the near future.

Type of Organization	CTO	Convention Bureau	Other
Mar. 2009	54%	35%	11%
June 2009	58%	32%	10%
Sep. 2009	48%	39%	13%
Jan. 2010	56%	26%	18%

**Table 3: Comparison of Organization Types**

*Question three: What is your function within your organization?*

According to the answers, the variety of functions performed by survey participants remains fairly similar throughout the surveys. However, in the fourth survey, the share of participants who either described themselves as Marketer or Researcher/Analyst increased from previously 40 percent to nearly 50 percent, and the number of CEOs decreased to the lowest level at 24 percent. Of those who answered “other”, around half of the respondents also perform managerial responsibilities within their organization, which means the percentage of participants in managing roles is higher than alone the percentage of CEOs showed in the result. The other half of “other” responses listed positions including assistant, technician, promotion, coordination, public relation and media.

Consequently, most participants, as indicated by their job functions, should have rich experience in decision-making and marketing related areas as well as in determining the changes in the market and estimating future market performance.

<b>Function</b>	<b>CEO</b>	<b>Marketer</b>	<b>Researcher/Analyst</b>	<b>Other</b>
<b>Mar. 2009</b>	33%	25%	13%	29%
<b>June 2009</b>	30%	19%	19%	32%
<b>Sep. 2009</b>	28%	22%	19%	31%
<b>Jan. 2010</b>	24%	28%	21%	27%

**Table 4: Comparison of Participants' Function**

*Question four: In the 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup> quarter of 2009 and compared to the same period in 2008, do you think – based on your own perception and experience - the number of bednights for the market segments below will be?*

The results of the first survey conducted in March indicate that experts predicted a general decrease in bednights for the second quarter when compared with the same time last year, no matter for which segment, but especially for individual business travellers and MICE corporate.

In the second survey, the forecast of bednights for all four segments in the third quarter is more negative than the forecasts for the second quarter reported in the first survey. However, it is necessary to take into consideration that the second and third quarters are structurally different: between April and June, the leisure and business segments play an equally important role for most destinations, whereas in the third quarter, leisure is very high every month and business is very low in July and August but high in September. In the second survey there are less people who chose “don’t know” compared to the first survey—this development could be interpreted as an indication of experts’ growing confidence in their judgment and selections as the tourism market continued to decrease in that period.

In the third survey, the overall trend of the estimates began to improve. The forecasting of bednights for all four of the segments of the fourth quarter is more positive than the forecasts of the third quarter, and some figures are even better than those for the second quarter. For example, the proportion of survey

respondents who agreed that “overnights will increase or at least stay at the same level as last year” for all four of the segments in the fourth quarter is higher than that of the second quarter. The main reason could be that the last quarter in 2008 was the worst period of the crisis, so when comparing the overall situation of the same period of last year and this year, many experts had a positive attitude towards this year. Another reason for the positive change might be that many of the survey participants anticipated the positive effects of the Christmas and New Year’s holidays in 2009.

The results of the fourth survey indicate a remarkable change in the positive direction for the first quarter of 2010. The forecasting of bednights for all four market segments is much more optimistic than that for the previous three quarters. The answer selected most often by experts changed to “Approx. the same” or “Increase 1% to 5%”. When added together, the share of survey participants who agreed “overnights will increase or at least stay at the same level as last year” for all four of the segments also has the highest recorded estimate with 71.7 percent for the leisure segment; 61.7 percent for the individual business travelers segment; 60 percent for the MICE non-corporate; and for the MICE corporate segment, the share is 45 percent. The number of experts who indicated that bednights will decrease by more than 5 percent is half or even less than the amount reporting the same in the third survey which comparatively makes this the most positive result of the previous three surveys. The main reason for the remarkable improvement in confidence among experts could be that recovery from the global financial crisis has already gotten underway, seeming faster and stronger than expected. Additionally, the growth of actual tourism arrivals and overnights reported for the final months of 2009 also improved experts’ confidence.

The expectations for each of the segments listed in the surveys are compared below:

MICE corporate: According to the results of the four surveys, experts gave this segment the least promising outlook. As the crisis started in the corporate sector, many companies and corporations have been badly impacted by not only the financial crisis but also the subsequent global recession. Bankruptcies spread throughout the real estate, banking, insurance and automobile industries around

the world from the start of the crisis, and as a result many workers were laid off. This trend became dominant and it seems not to let up, or at least not in the short-term. On the other hand, the actual overnights from hotels for the corporate segment also shows a significant decrease.

Individual business travelers: all surveys indicate that expectations for the individual business travelers segment are quite similar to those for the MICE corporate segment; however, it is expected to perform slightly better than the MICE corporate, especially according to the results of the fourth survey. Therefore, the analyses of those two segments are made together.

As indicated in the first survey, more than 70 percent of respondents believed that bednights for MICE corporate and individual business travellers in their respective city would decrease by at least 1 percent in the second quarter. More than half of the expert responses indicated the expected decrease to be more than 5 percent. The overall value of the estimates which experts provided in the second survey declined: nearly 80 percent of survey participants foresee that bednights for both the MICE corporate and individual business traveller segments will drop by at least 1 percent. However, the MICE corporate segment has the most negative forecast: 50.8 percent of experts expected overnights to decline by more than 5 percent, while 41.3 percent predicted a drop in individual business travellers.

Similar to the overall situation, expectations for both segments improved in the third and particularly in the fourth survey. The most frequently chosen answer for the MICE corporate and individual business travelers changed from being “Decrease more than 5%” in the second survey to “Decrease 1% to 5%” in the third survey and finally, in the last survey “Approx. the same.” The total proportion of respondents who stated that bednights would drop at least 1 percent is 48.3 percent and 36.6 percent for MICE corporate and individual business travellers respectively. The results are much better than those in the second and the third survey. One outcome of the fourth survey that should be mentioned is that the individual business traveler segment has the biggest increase in terms of expectations for the first quarter in 2010 for all four segments.

MICE non-corporate: in contrast to MICE corporate, the MICE non-corporate segment was expected to deliver the most optimistic results among all four segments in city tourism according to the previous three surveys. In the first survey, 55.3 percent of respondents indicated that the MICE non-corporate segment will drop by at least 1 percent when compared to the same period of last year, and the percentage of experts who shared this opinion changed to 61.9 percent and 51.2 percent in the second and third surveys respectively which while negative, is still the segment with the most positive forecast. The reason stated by many experts is that they noticed a significant increase in scientific, academic and other non-corporate meetings and conferences in their cities, increasing hotel occupancy, and they expected that this trend would continue until the end of 2009. For the first quarter of 2010, the leisure segment, instead of MICE non-corporate, received the highest forecast. However, still 61.7 percent of survey respondents believed that bednights in the MICE non-corporate segment would increase or at least stay at the same level as last year.

Leisure segment: this segment is a major source of tourism for most European cities. The predictions for the leisure segment are similar to those for the MICE non-corporate segment during the time of financial crisis. The first survey is evidence of how 55.6 percent of participants foresee bednights in this segment will drop by at least 1 percent, and that number largely increases to 69.9 percent in the second survey only to then drop back to 52.4 percent and 28.3 percent in the third and fourth surveys respectively. In the previous three surveys most experts predicted “Decrease 1% to 5%” for the leisure segment which is a dramatic change to the answer “Increase 1% to 5%” given in the fourth survey. Experts have relatively high expectations for the leisure segment based on their confidence that people will not completely stop taking holiday and travelling due to the influence of the financial crisis. It is more likely that they just change their travel habits and choose different destinations. This positive outlook increases especially as the financial situation seems to have stabilized and become more predictable from 2010 onwards.

	Mar. 2009	June 2009	Sep. 2009	Jan. 2010
<b>MICE corporate</b>	73.4%	79.4%	74.4%	48.3%
<b>Individual business travelers</b>	70.0%	79.4%	67.3%	36.6%
<b>MICE non-corporate</b>	53.3%	61.9%	51.2%	33.3%
<b>Leisure</b>	55.6%	69.9%	52.4%	28.3%

**Table 5: Expectation for “bednights will decrease by at least 1%”**

*Question five: In the 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup> quarter of 2009 and compared to the same period in 2008, do you think – based on your own perception an experience - the number of bednights from the source markets below will be:*

Like the estimate of overnights for different segments, the major trend in estimations of overnights for the different source markets is similar throughout all four surveys. Experts gave negative estimates in the first survey for all of the source markets, and expectations worsened dramatically in the second survey. Such pessimistic forecasts for the third quarter might reflect actual arrival and overnight numbers recorded by each city as many European cities suffered a large decrease in the number of international tourists, especially American and British.

However, in the third survey estimations became more positive, bouncing back into the same range as in the first survey. In the fourth survey, the prediction for number of bednights from different source markets in the first quarter of 2010 rose incredibly in comparison to the previous surveys. There is a striking drop in the share of experts who chose “Decrease more than 5%” for all source markets. Except for the US market, the most often chosen answer for all markets is “Increase 1% to 5%” or “Approx. the same.” The other trend consistent throughout all four surveys is: experts are most optimistic about the potential of the domestic source market and see the least potential in the American and British segment.

As mentioned before, no matter how uncertain the economic situation is, and no matter what kind of crisis is playing out, people do not entirely stop traveling, but they do change their traveling habits and purchasing behavior to some extent. One of the major changes confirmed by many studies and experts and also validated by actual arrivals and overnights is: during times of economic and financial crisis people choose to stay in their own countries or travel only to close by destinations for holidays. Other major changes include: people take more short holidays

instead of long ones, and they tend to book holidays really early or very late in order to find bargains on flights, hotels or packages.

This change is also foreseen by survey participants. No matter if the whole market is expected to decrease or increase, the domestic market remained to be thought of as the comparatively best performer for city tourism in Europe. Consequently, it always received the highest estimates since experts know that people tend to stay in their home country for holidays during times of crisis. The percentage of survey participants who stated that domestic markets will stay at least approximately at the same level as in the same period of last year are 64.1 percent, 59 percent, 61.8 percent and 84.4 percent in all four surveys respectively. These numbers indicate that even when expectations are at the lowest level, as in the third quarter still 59 percent expect the domestic market remain stable. The same criteria across the whole market in the surveys are: 30.3 percent, 24.7 percent, 35.8 percent and 79.3 percent. For other individual markets, shares range from 12 to 81 percent at different times. Also, in the fourth survey 51.7 percent of the participants predict bednights for domestic tourists will increase from 1 to 5 percent.

However, there is also a slightly negative change in the third survey for the domestic market as 4.5 percent more experts expect that the overnight numbers will decrease by more than 5 percent which is a contrast to the general trend to become more positive. The reason for this change could be that participants expected a different travel trend in the last quarter of the year, as people might go out of the country for Christmas and New Year's holidays. The breakdown of the source market helps to capture the small adjustments in experts' judgmental forecasting.

In strong comparison to the expectations for the domestic market, the US market is predicted to perform worse, followed by the UK. In the previous three surveys, around 50 percent of respondents reported that bednights for American and British tourists will decrease by more than 5 percent. When added up, the proportion that chose "Decrease 1% to 5%" in the previous three surveys is around 70 percent for both markets. In the second survey, the most pessimistic forecast went to the American market: 85.2 percent of experts indicated that the market would drop by at least 1 percent. Nevertheless, in the fourth survey estimates for the American and British markets are much more positive than those in the previous ones, with

56.9 percent and 51.7 percent of experts predicting bednights to drop by at least 1 percent. However, they still remain the lowest source markets. This point of view is mainly the result of the economic crisis, which originally began in the US and badly influenced many industries and areas in the US and UK leading to high unemployment rates and very low consumer confidence. This said, it is generally believed that people will continue to travel regardless of economic or even security concerns. It is therefore possible that American and British travelers stay in their own respective countries for holidays in order to save on costs.

Concerning the individual source markets, it is consistently projected that Germany performs the best among the major tourist source countries—with 46.1 percent, 45.9 percent, 46.9 percent and 81 percent of respondents indicating in the surveys that the number of German tourists will at the very least stay at the same level. Especially in the second survey, the German market is identified as the second most promising source market after the domestic market. Only 53.1 percent of experts believed that the number would drop by at least 1 percent in contrast to 63 percent and 85 percent predicting a decrease in the other individual markets. As Germany represents one of the most important source markets for tourism, especially in Europe, it is no surprise that many ECM member cities have such high expectations about the potential of this market as a source.

For the remaining individual source markets—French, Italian and Spanish expectations are similar in all four surveys: worse than for the domestic and German markets while much better than those for the American and British markets. In the third survey, the results indicate that experts anticipate all three markets to perform better than before. This might be attributed to the fact that during the winter season many people from these three countries go skiing or take special Christmas & New Year's holidays outside their own countries, especially to those destinations that are not in the Euro zone with a depreciated exchange rate to the Euro, as mentioned by survey participants.

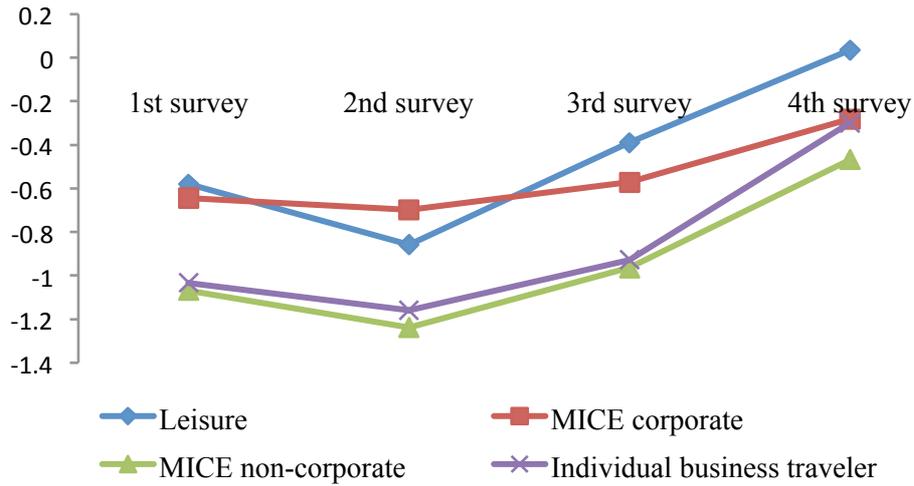
Another difference in the survey results worth mentioning is the number of participants who answered “Don't know” to the question asking for estimates of the source markets. In the second and the fourth surveys, participants were very certain and expressed firm opinions, although in opposing directions, about the change in overnights among the different source markets—meaning very few

people chose “Don’t know”. In contrast, in the first and thirds surveys there are more experts who were not sure how individual markets will change as indicated by a much higher rate of “Don’t know”. For example, in the third survey, 12.3 percent of experts “don’t know” how the American tourist market will change, and 11.1 percent of experts were also not sure how the French, Italian and Spanish tourist markets will change. However, in the fourth survey there is only one expert who indicated “Don’t know” about the French and Spanish markets.

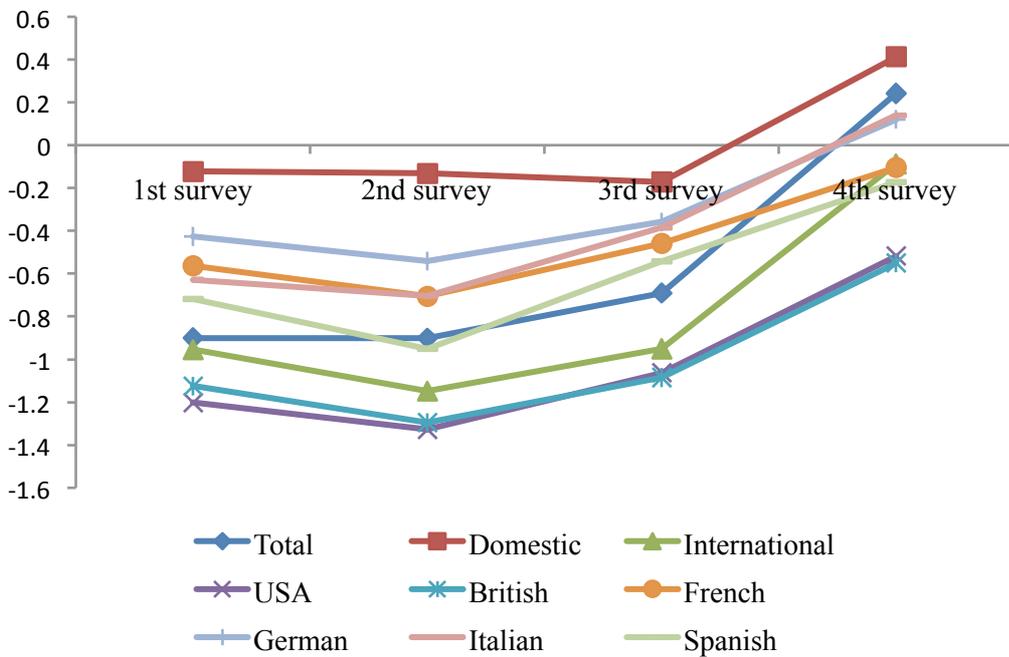
In order to capture the general trend in forecasting for each tourist segment and market as well as to compare the change in estimates given in all of the surveys, the forecasting results for market segments and source markets are re-scaled. The scaling was carried out as follows: +2 for Significantly higher (more than 5%); +1 for Higher (between 1% and 5%); 0 for Approximately the same; -1 for Lower (between -1% to 15%); and -2 for Significantly lower (less than -5%). After timing the scale and the percentage for each choice, the numbers were added together and the final figure for each segment and market is listed in Table 6. A graph based on the numbers was drawn in order to compare the change in the trend.

	1 <sup>st</sup> survey	2 <sup>nd</sup> survey	3 <sup>rd</sup> survey	4 <sup>th</sup> survey
<b>By Segments</b>				
Leisure	-0.580	-0.858	-0.390	0.034
MICE corporate	-0.644	-0.698	-0.572	-0.282
MICE non-corporate	-1.068	-1.238	-0.964	-0.467
Individual business travelers	-1.033	-1.159	-0.927	-0.299
<b>By Markets</b>				
Total	-0.900	-0.901	-0.691	0.242
Domestic	-0.123	-0.132	-0.172	0.413
International	-0.955	-1.148	-0.951	-0.087
American	-1.202	-1.327	-1.063	-0.518
British	-1.125	-1.295	-1.085	-0.551
French	-0.562	-0.705	-0.458	-0.104
German	-0.426	-0.541	-0.358	0.120
Italian	-0.629	-0.704	-0.384	0.139
Spanish	-0.719	-0.951	-0.543	-0.172

**Table 6: Scaled forecasting results in each survey**



**Figure 1: Forecasting trends for each segment**



**Figure 2: Forecasting trends for each source market**

Question six: In the 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup> quarter of 2009 and compared to the same period in 2008, do you think – based on your own perception an experience - hotel room prices will be:

As hotel price is one of two decisive factors in accommodation revenue of a destination, it is often adjusted by hotels at different times and seasons throughout the year in order to maximize revenue. Normally, hotel price is increased in the high season of tourism, or during special events and festivals, because these are

the times when people tend to go to a destination despite the hotel price being higher than normal. During the low season or in a period of crisis like recently, hotel price is used as a marketing strategy, usually lowered in order to attract more people to come and stay which can eventually increase revenue on the whole. Low-price flights and hotels are always attractive to tourists and can especially contribute to their decision when choosing a travel destination.

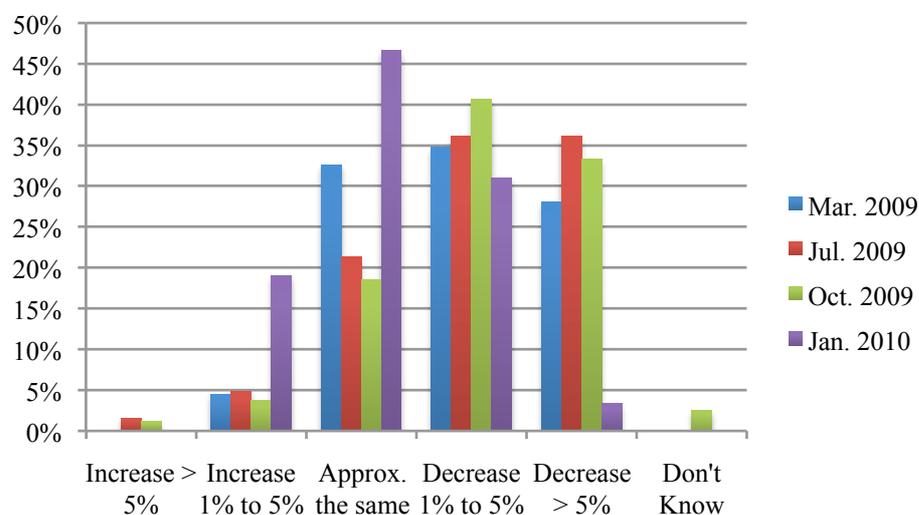
In the first survey, 62.9 percent of respondents reported that hotel price level would decrease by at least 1 percent while 32.6 percent of experts indicated that the price would stay at the same level when compared to the same period in 2008. The figures become increasingly negative in the second survey: 72.2 and 21.3 percent respectively. Additionally, there are 8 percent more experts who estimate that hotel price will decrease by more than 5 percent. This despite that experts probably know that lowering the price is not a good strategy since it could take quite a long time for it to return to the same level as before; however, they also acknowledge that the significant decrease in bednights will force hotels to lower prices.

In the third survey, in contrast to the comparatively optimistic estimates of overnights, experts anticipated a decrease in hotel room price in the fourth quarter when compared to the same period last year. The proportion of participants who believed that price will increase or stay at the same level decreased from the second survey's 27.8 percent to 23.4 percent. This is a result of many destinations that adopted or at that time planned to adopt a low price strategy as their market strategy to attract more tourists and increase hotel occupancy. At the same time, there are still a few experts who expected hotel prices to increase because of upcoming, large international conferences and meetings in their cities, such as the UN Climate Change Conference in Copenhagen in December 2009.

In the fourth survey, the change in expectations of hotel prices in the first quarter of 2010 also shifted dramatically in a positive direction when compared to those of the previous surveys. The share of participants that chose "Decrease more than 5%" dropped from the third survey's 33.3 percent to 3.4 percent while the share for "Approx. the same" rose from 18.5 to 46.6 percent. However, not a single expert indicated that hotel price would increase by more than 5 percent. The reason for the change could be that hotel price in the first quarter of 2009 was

already so low that most hotels would not choose to lower the price further in 2010 but rather keep it at the same level or only introduce slight changes. Nonetheless, tourists are still sensitive to the increase in hotel price; especially considering the negative influence of the financial crisis will be around for some time, continuing to confine household expenditures including money spent on travel. Therefore, experts predicted that hotels would not significantly increase hotel price in the first quarter of 2010.

The comparison of the estimated change in hotel price indicated in the different surveys is showed in the following Figure 3.



**Figure 3: Estimated change of hotel price**

Question seven: Please provide your current best estimate for the relative change of the number of total bednights in 2009 (whole year) compared to 2008.

This is the only question kept the same in all of the surveys. The question asks for the estimate of the number of bednights for the whole year which gives an overall indication of how expert judgment changed with access to more information, data on arrivals and bednights as well as a clearer picture of the broader economic situation. The question gives experts the opportunity to adjust their estimation of the number of total bednights by taking into consideration the effects of what happened during the time in between.

Results from the first survey in March for estimates of total bednights in 2009 compared to 2008 indicate that 17 percent of respondents expressed an expectation

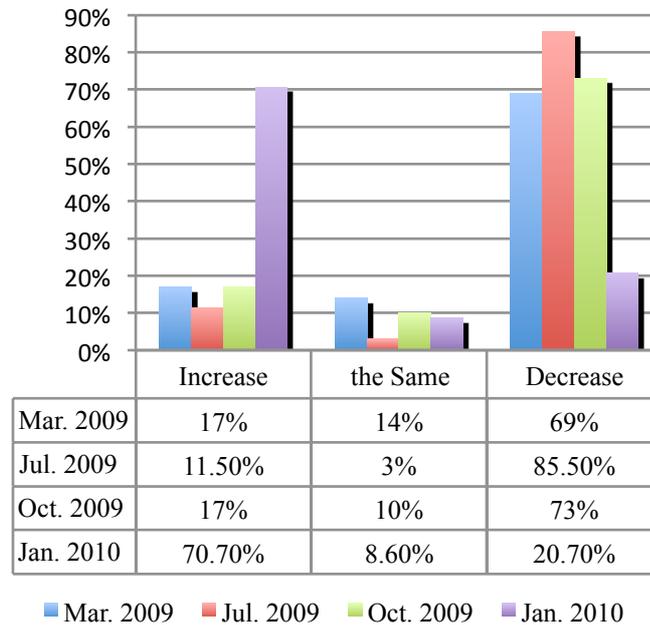
for the number to increase and 69 percent stated it would decrease. The most frequently selected answers among all experts were -10% (16.1 percent) and -5% (14.9 percent). Overall the estimated average change in the total number of bednights in 2009 is -3.6 percent ( $\text{sum}(\text{number of experts} * \text{percentage}) / \text{total number}$ ).

According to the second survey, experts tended to be more pessimistic in July than in March about total bednights in 2009. Only 11.5 percent of respondents predicated an increase in the number of total bednights. And 3 percent of experts replied in the survey that the number would stay the same, or in other words, 85.5 percent of experts expected a decrease that is much higher than the first survey's 69 percent. The answer chosen most often was -5% which 21.3 percent of experts selected while 18 percent chose -10%. Overall the estimated average change in bednights is -5.2 percent.

In the third survey expectations for bednights in 2009 marked an improvement relative to experts' perceptions given in July with reported numbers almost up to the same levels as in March. 73 percent of respondents predicted that the number of total bednights would decrease. The answer chosen most was, as before, -5% selected by 15.4 percent of participants, and -10% was the second most popular answer with 13.7 percent. The percentage of experts who estimated that total bednights would increase rose from 1 to 6 percent, which is not as sharp of a change as the expected decrease rates. Overall the estimated average change in bednights is -4.9 percent

In the fourth survey 70.7 percent of survey participants predicted that the number of total bednights would increase in 2010 which is quite close to the proportion that believed bednights would decrease in 2009. The composition of the answers given in the fourth survey switched when compared to those in previous surveys. The answer chosen most went from -5% to +2%, selected by 20.7 percent of experts, and +1% and +3% are the second and third most popular answers with a share of 19 and 17.2 percent. The detailed answers show that although many more experts think total bednights will increase in 2010, the expected rate of increase is quite small. At the same time, the expected decrease rates mainly range from -1% to -5%, proving that the estimated change in total bednights for 2010 is moderate this time in regards to either an increase or decrease. As one expert pointed

out, “2010 will not be significantly better or worse than 2009.” The averaged estimation for the change of bednights is 1.1 percent.



**Figure 4: Comparison of Forecasts for Total Bednights**

Exchange rates are one factor that influences tourism in a country or region. In Europe there are still different currencies so the variation of exchange rates still influences the demand of tourism between Euro zone and Non-Euro zone as well as among the Non-Euro zone countries. The typical example is Iceland: from the bank’s collapse in 2008 until October 2009, when data was last available, the huge depreciation of the Icelandic currency against all major currencies has attracted more tourists; however, at the same time, most of the destinations around the world were suffering from a huge decline and difficulties in tourism.

According to the Iceland Tourist Board and the Statistic Iceland, the value of the Icelandic currency plummeted by 44 percent in 2008 that strongly promoted tourism in Iceland. More than 10,500 Canadians visited the country in 2008, an increase of 68 percent from 2007. A net 6.5 percent increase in foreign visitors to Iceland was recorded in April 2009, with many more Swiss, German and American tourists. In the first ten months of 2009, the number of overnight stays of foreigners increased by 3 percent compared with the same period in 2008 while the number of overnight stays of Icelanders decreased by 11 percent [11]. “It is

clear tourists are enjoying the low rate of the Icelandic currency and the increased purchasing power that brings. The last quarter of 2008 and the first three quarters of 2009 saw spending by foreign visitors to Iceland increase considerably when counted in Icelandic Kronur. From this point of view, the Icelandic tourist industry and other services are benefiting from the weakened exchange rate.” [11]

The estimate for total bednights is broken down into Euro zone and Non-Euro zone based on the choice of city and by experts. In the initial survey experts from Euro zone cities expected in 2009 that bednights drop by 4.2 percent on average compared to 2008 whereas Non-Euro zone experts expected a 2.9 percent decrease on average. In the second survey bednights are predicted to drop by 5.4 percent and 5 percent for Euro zone and Non-Euro zone respectively. And the forecast of bednights in the third survey is -7 percent for Euro zone and -4 percent for Non-Euro zone. As remarkable as the rise in tourism forecasts for 2010, the estimate of total bednights increases by 1 percent and 1.5 percent for Euro zone and Non-Euro zone respectively. No matter the significance of this trend, the fact that experts in Non-Euro zone cities have more positive expectations than those in Euro zone cities in all of the surveys could be due to the depreciation of the currencies in Non-Euro zone countries and the stabilization of the Euro during the time of financial crisis which could benefit inbound tourism in Non-Euro zone cities and negatively impact the inbound tourism in Euro zone cities.

	1 <sup>st</sup> Survey	2 <sup>nd</sup> Survey	3 <sup>rd</sup> Survey	4 <sup>th</sup> Survey (for 2010)
<b>Total</b>	-3.6%	-5.2%	-4.9%	1.1%
<b>Euro-zone</b>	-4.2%	-5.4%	-7.0%	1.0%
<b>Non Euro-zone</b>	-2.9%	-5.0%	-4.0%	1.5%

**Table 7: Expected Change of Total Bednights of 2009 and 2010**

*Question eight: In your opinion, what will be the key factors for an increase/decrease in the total bednights in your city in the next quarter?*

Among those experts who answered this open-end question, most gave more than three influential factors and some of them also provided detailed explanations of those factors. These answers can be considered as proof and support for their judgments. The factors mentioned at least twice in each survey are listed below.

	First Survey	Second Survey
<b>Main factors for increase of the quarter</b>	<ul style="list-style-type: none"> <li>• extra sales promotion activities on key and new markets,</li> <li>• new direct flights,</li> <li>• many upcoming long weekends,</li> <li>• host city of major international congresses or events,</li> <li>• exchange rates will be an advantage,</li> <li>• more domestic travelers,</li> <li>• more competitive hotel prices and airfares,</li> <li>• VAT reduction on restaurant bills,</li> <li>• expect nice weather.</li> </ul>	<ul style="list-style-type: none"> <li>• increase of domestic visitors</li> <li>• special summer promotions on the web (such as cheaper hotels, free tickets for summer festivals)</li> <li>• new low-cost airline routes and increase of airline frequency</li> <li>• campaigning with online tour operators globally</li> <li>• increase of tourists from neighboring countries</li> <li>• events&amp; festivals</li> <li>• exchange rates</li> </ul>
<b>Main factors for decrease of the quarter</b>	<ul style="list-style-type: none"> <li>• economic crisis</li> <li>• lack of consumer confidence and trust</li> <li>• depend a lot on international tourist</li> <li>• hotel prices are not competitive</li> <li>• exchange rates will be a disadvantage</li> <li>• competition from destinations outside Euro-zone will increase</li> <li>• increase in unemployment rate</li> </ul>	<ul style="list-style-type: none"> <li>• financial crisis</li> <li>• decrease of major source markets, such as Russian, American and British</li> <li>• decrease of corporate meetings and business travel</li> <li>• unemployment rate and consumer confidence in key markets</li> <li>• exchange rates</li> <li>• H1N1 flu</li> </ul>
	Third Survey	Fourth Survey
<b>Main factors for increase of the quarter</b>	<ul style="list-style-type: none"> <li>• increase in meetings and congresses in the last quarter, especially for international organizations and other non-corporate organizations</li> <li>• increase when compared to the very bad 4th quarter in 2008</li> <li>• Christmas and New Year holidays</li> <li>• recovery of economic situation</li> <li>• low-cost airline routes and special discounts during the winter</li> <li>• special campaigns and schemes for domestic tourism</li> <li>• attraction of lower prices, especially lower hotel prices</li> <li>• increase in domestic tourists</li> <li>• exchange rates</li> </ul>	<ul style="list-style-type: none"> <li>• recovery of global economy and European economic situation</li> <li>• successful market campaign and promotion</li> <li>• increase of events, conventions and trade-fairs</li> <li>• new low-cost airline routes</li> <li>• domestic tourists keep on increasing</li> <li>• recovery of consumer confidence</li> <li>• exchange rates</li> </ul>
<b>Main factors for decrease of the quarter</b>	<ul style="list-style-type: none"> <li>• financial crisis</li> <li>• decrease in major source markets, such as American, British and Japanese</li> <li>• decrease in corporate meetings and business travel</li> <li>• increased competition among destinations</li> <li>• unemployment rates still rising</li> <li>• exchange rates</li> <li>• people will try to save more at the end of the year</li> <li>• reduction in air access</li> <li>• the H1N1 virus</li> </ul>	<ul style="list-style-type: none"> <li>• unemployment rates</li> <li>• exchange rates</li> <li>• reduced air access</li> <li>• slow recovery of economic situation</li> <li>• the H1N1 virus</li> </ul>

**Table 8: Factors that Influence Bednights**

Participants are asked to list out the main factors, which influence bednights in the city for the next/current quarter, several factors are listed out in all of the surveys such as the financial crisis, change in accessibility of destinations (mainly due to discount airlines), exchange rates, marketing campaigns and promotions in addition to unemployment rates. These factors influence tourism demand in a destination no matter when and during what kind of economic situation. The other factors mentioned vary depending on experts' perceptions of the general situation for the respective quarter.

### **4.3 Actual Data and other Forecasting**

#### **4.3.1 Actual Bednights from TourMIS**

In order to test the quality and accuracy of experts' forecasts in those surveys, the forecasting results are compared to the actual data from TourMIS and UNWTO. On TourMIS various data in different criteria are available such as overnights and arrivals for Europe in its entirety or European cities, monthly or yearly data, as well as domestic and foreign data. For this reason the data that is closest in terms of criteria to the ECM survey were chosen.

The actual data on TourMIS used for comparison in this thesis was selected from "City tourism in Europe—Latest trends—Development during the last 12 months." The monthly change of arrivals and bednights (total foreign and domestic tourists) compared to the same month in last year during the last 12 months is calculated and showed automatically. Another important piece of information, the number of the sample cities for arrivals and bednights, is also given at the same time.

Although the forecasts required by the survey are about the change in total bednights inside a city from the second quarter of 2009 to the first quarter of 2010, the available data for most cities is till December 2009. In total, there are 38 to 54 cities out of the total 82 destinations on TourMIS entered the actual bednights, and 33 to 48 cities did that for arrivals. In general, there are more cities that have data for bednights than for arrivals. The actual monthly change rate of arrival and bednights retrieved from TourMIS and the calculated quarterly data are available in the following two tables:

2008-2009 % change (domestic +foreign)			
Month	Arrivals	Bednights	Sample cities (arrivals/bednights)
January	-2.2	-3.2	48/54
February	-9.0	-9.9	47/53
March	-7.2	-9.7	47/53
April	-5.2	-5.9	47/53
May	-5.9	-6.5	46/53
June	-4.7	-4.9	46/53
July	-0.9	-0.2	46/52
August	2.1	0.2	46/52
September	-1.3	-0.4	46/52
October	-0.1	1.0	43/47
November	-1.8	-3.8	35/41
December	5.1	4.5	33/38
<b>Average</b>	-2.6	-3.2	

**Table 9: Actual Data Retrieved from TourMIS on 2<sup>nd</sup> March 2010**

2008-2009 % change (domestic +foreign)			
Quarter	2 <sup>nd</sup> quarter	3 <sup>rd</sup> quarter	4 <sup>th</sup> quarter
Arrivals	-5.8	-0.1	0.6
Bednights	-5.3	0	1.1

**Table 10: Actual Quarterly Data from TourMIS on 2<sup>nd</sup> March 2010**

Although experts gave forecasts for the first quarter of 2010 in the last survey, it is impossible to get the actual data on bednights, so there is no comparison between forecasts and actual data for the first quarter of 2010.

#### **4.3.2 Forecasting and Actual data from UNWTO**

The forecasting of international tourism performance made by UNWTO for the whole year of 2009 varies at different times throughout the year and is mainly influenced by the actual arrivals and overnights as well as the opinions of the Panel of Tourism Experts. In January, the final result of international tourist

arrivals for 2008 still recorded a growth of 2 percent, which is much less than the 7 percent increase in 2007. Although the first half-year of 2008 had a strong increase of 6 percent, the arrivals in the second half-year changed dramatically, declining by 1 percent due to factors such as “the credit crunch, the widening financial crisis, commodity and oil price rises, and massive exchange rate fluctuation, which undermined both business and consumer confidence”[9]. However, at the beginning of 2009 the general situation did not seem to be too bad as the result from 2008 was still positive. For such reasons UNWTO anticipated that the global tourism arrival number in 2009 would “be flat at the best and a few percent down at worse (-1% to -2%)”.

In April, UNWTO published its first interim update as a supplement to the official publication of *Barometers* in order to provide the latest data in tourism and monitor changes in the market. Arrivals for the first two months of 2009 deteriorated greatly, dropping by nearly 9 percent globally and 10.3 percent in Europe compared to the same period in 2008. However, UNWTO still maintained its forecast to be, as in January, “stagnate (0%) or decline as much as -2% during the current year”.

However, just two months later, the forecasting result in June changed drastically to “decrease within a range of -6% and -4%” as the international tourist arrivals dropped 8% in the first four months of 2009, especially in Europe (-10%) and in the Middle East (-18%). “The volatile economic situation continued causing an increase in the unemployment rate, more fluctuating exchange rates and also influenced business and consumer confidence very negatively” [9]. Additionally, further uncertainties were introduced by influenza A (H1N1). In September, the forecast for 2009 remained the same as in June: decrease between 4 and 6 percent. Although the average of arrivals from January to July declined by 7 percent compared to the bullish first part of 2008, the data in June and July shows some recovery as the summer holiday season started and “there are signs indicating the lowest point may have also been reached in the tourism sector” [9].

The updated data in October’s issue of *Barometer* shows that the decline in international tourism eased in the previous months and confidence in tourism gradually picked up as “arrivals in the two high season months of July and August declined by 3%, compared to the decrease of 8% in the first half of 2009” [9]. The

estimation in October for the whole year 2009 still indicates a 4 to 6 percent decline, as the slight recovery cannot compensate for the huge decrease experienced in the beginning of 2009.

At the beginning of the New Year 2010, UNWTO provides a much more positive forecast for international tourism arrivals in 2010 inside its most recent publication of *Barometer* (January, 2010)—the anticipated increase is between 3 and 4 percent. Current data available from UNWTO shows that international tourism arrivals could decline around 4 percent in 2009 and by 6 percent for the European market. “The growth returned in the last quarter of 2009, contributing to a better than expected full-year” for 2009 [9]. The change in forecasting by UNWTO, considering the results of passing time and updates of actual data, is displayed in Table 11.

	2008-2009 % change					
Time	January	April	June	September	October	January,2010
Available period	whole 2008	Jan. and Feb.	Jan. to Apr.	Jan. to Jul.	Jan. to August	whole 2009
Actual arrivals	2	-8	-8	-7	-7	-4.3
Estimated change	-2 to 0	-2 to 0	-6 to -4	-6 to -4	-6 to -4	/

**Table 11: Forecasting of International Total Arrivals by UNWTO**

Then what information is there to share about the change in the Tourism Confidence Index throughout 2009 according to the opinions of the Panel of Tourism Experts? In January, the overall rating given by experts about their confidence in tourism for 2009 went down to 71, between the range of worse (50) to equal (100) which is slightly more than half of that given for 2008 (132). In June, the estimate for the first four months of 2009 is only 57 whereas the rating for the May-August period at 69 is slightly less pessimistic. The survey results in October show that experts regained their confidence, which suggests, “a turning point may have been reached.” The rating of performance for the May-August period is 73, “up from 57 for the first four months of 2009, however, 73 is still the second lowest score in the history of UNWTO World Tourism Barometer. The rating of prospect for the last four months of 2009 also went up to 92” [9]. The

expectation for 2010, according to UNWTO's Panel of Tourism Experts also greatly improves with an average score of 131.

Time	1 <sup>st</sup> time in Jan.	2 <sup>nd</sup> time in June	3 <sup>rd</sup> time in Oct.
<b>Evaluation</b>	/	57	73
<b>Prospect</b>	67	69	92

Time	2003	2004	2005	2006	2007	2008	2009	2010
<b>Evaluation</b>	119	144	140	136	143	98	71	/
<b>Prospect</b>	/	150	144	140	137	132	71	131

**Table 12: Expectation by UNWTO's panel of tourism experts**

It is evident that UNWTO constantly adjusts its forecasts based on the most recent actual data; various related factors of tourism; and the Tourism Confidence Index from its tourism experts around the world in order to provide a more accurate result, which proves the advantage of judgmental forecasting.

#### 4.4 Comparison

##### 4.4.1 Actual data from TourMIS and UNWTO

Data are from TourMIS (total international tourists arrivals in European cities, retrieved on 2nd March) and UNWTO (international tourist arrivals in Europe) Barometer January 2010.

	2008-2009 % change		
	TourMIS Arrivals	UNWTO Arrivals	Absolute differences
<b>January</b>	-4.8	-7.5	2.7
<b>February</b>	-12.3	-13.4	1.1
<b>March</b>	-9.8	-17.6	7.8
<b>April</b>	-4.4	-1.5	2.9
<b>May</b>	-6.9	-11.5	4.6
<b>June</b>	-8.6	-8.4	0.2
<b>July</b>	-0.2	-3.2	3.0
<b>August</b>	-0.1	-2.8	2.7
<b>September</b>	-1.2	-3.2	2.0
<b>October</b>	-0.3	-1.6	1.3
<b>November</b>	-3.6	-0.4	3.2
<b>December</b>	0.8	-1.1	1.9
<b>Average</b>	-4.3	-6.0	1.7

**Table 13: Actual monthly and quarterly data from TourMIS and UNWTO**

The total international arrivals in European cities from TourMIS are available for 41 cities and the detailed data for each city are in Appendix 2. As it is showed in Table 13, the average arrivals from TourMIS is -4.3 percent, which is 1.7 percent higher than that from UNWTO. The difference could result from there being just 41 cities that input data into TourMIS, while UNWTO is supposed to have the data from all European countries. However, the EMC survey was carried out among the ECM member cities, which normally are the major tourism cities in Europe, so it is reasonable that tourism in those cities performed comparatively better than non-member cities or tourism in rural areas in Europe. Therefore, the actual result from TourMIS is used for comparison with the forecasts in ECM surveys, as they have closer criteria--total bednights in ECM member cities.

Another finding is that the yearly change of total domestic and international arrivals in European cities is -3.2 percent (Table 9), which is better than the international change rate -4.3 percent. This difference proves that during the global financial crisis, domestic tourism performed better than international tourism in general, as people tend to stay at their own country when the traveling budget is limited.

#### **4.4.2 Forecasting results**

Forecasts from ECM surveys (bednights in European cities) and UNWTO Tourism Barometer (international tourist arrivals) for the whole year at different time (% p.y.). Although the subject for forecasting is not the same for ECM and UNWTO, the forecasting results do not vary much. For example, the absolute differences for the forecasts made in June and September for the whole year of 2009 are just 0.2 and 0.1 percent, and the averaged absolute difference is 1.3 percent. These results could mean that people's judgmental opinions of the tourism market trend in the near future are close. The forecasts made throughout the ECM survey can represent the general opinion of experts.

Forecasting time	ECM Survey	UNWTO Barometer	Absolute difference
March 2009	-3.6	-1.0	2.6
June 2009	-5.2	-5.0	0.2
September 2009	-4.9	-5.0	0.1
January 2010	1.1	3.5	2.4
Average			1.3

**Table14: Forecasts from ECM surveys and UNWTO Barometer**

#### 4.4.3 Forecasting result and actual data

The actual change of bednights for European cities in 2009 is -3.2 percent, according to TourMIS (2<sup>nd</sup> March 2010). The actual change rate is less negative than the forecasting results for 2009 (March: -3.6%, June: -5.2%, September: -4.9%) obtained in the ECM surveys throughout different times of the year. This could be taken as normally people tend to be more pessimistic during the time of crisis, since they did not know when the crisis would end and how much the negative influence would be.

#### 4.5 Conclusion of the forecasting quality and accuracy

For testing the quality and accuracy of a forecasting model there are different ways and methods. In many empirical studies of forecasting, mean absolute percentage error (MAPE) is very often used to test the forecasting accuracy such as it was done by Martin and Witt (1989), Welch et al. (1997), Burger et al. (2000). Frechtling (1996) set up comprehensive criteria and made detailed explanations for evaluating the forecasting models and testing the accuracy that include eight aspects. These criteria are: specified structure, plausible structure, acceptability, explanatory power, robustness, parsimony, cost and accuracy. The evaluation of this survey, carried out in the following part is based on Frechtling's (1996) theories.

**Specified structure:** as mentioned before, since the series of surveys was initiated by ECM, the choice of the model, i.e. judgmental opinions from surveys, how the survey was conducted and how to use the forecasting results was all decided by ECM. As ECM is an organization in the tourism industry for European city

tourism, the whole process of forecasting is made practical and easily applicable from the design phase to the implementation and evaluation phase.

**Plausible structure:** the purpose of the study is to forecast the influence of the financial crisis on European city tourism. The judgmental model used in the study is comparatively credible as there is no comparable historical data on the current situation in tourism, also the forecasting period and available time for making the forecasts is short which requires simple, fast and easy implementing methods. However, quantitative methods requires a large amount of data as well as time to compile the data and calculate the forecasting results, which is not practical during such kind of situation. On the contrary, the forecasts of the judgmental model can be adjusted with the passing time as most of the forecasters eventually gain access to the latest results from the market and are aware of some factors which could change the result in the near future. Therefore expert's judgments are expected to play a more important role and offer better forecasts during the financial crisis.

**Acceptability:** the judgmental model that uses judgments from the experts should be the model with the highest level of acceptability among managers in tourism industry. Since most experts are managers or have management positions, they decide or influence the marketing and promotion of tourism in their cities directly. The case study is initiated and conducted by the ECM, so those experts do not need to spend much time and money to get the general forecasting results. On the other hand, the model used in the case study also help those experts acquire more knowledge about the opinion and estimation of experts in other European cities, which helps managers to understand the overall situation of tourism in Europe. Thus the judgmental forecasting model is very acceptable among managers.

**Explanatory power:** as many of those experts who designed the questionnaire also work in destination management organizations at the same time, those questions used in the survey should be important and useful for tourism experts in their work. We can assume that the forecasting model explains what the management wants to know.

**Robustness:** as explained by Frechtling (1996), robust describes to what extent the forecasting result is affected by the extreme values in the historical data (for quantitative methods) and judgmental opinion (for qualitative methods). The less

affected the result is, the more robust the model is. The forecasting results provided by experts from surveys in this study are median robust as everyone's opinion is reflected in the result and some results are averaged. However, as the number of participating experts is not as high as it was expected to be, the extreme values could influence the final forecasting results more than they are supposed to.

**Parsimony and cost:** the parsimony criterion argues for the simple model because it is more practical, easily to implement and often chosen by managers over the complex ones when other criteria are similar among them (Frechtling, 1996). One reason is normally the complex models are more time and money intensive than the simple ones. If the simple models can provide forecasts with the same accuracy or even better accuracy than the complex one, people will use the simple ones.

For the judgmental model under study, the cost is the use of an online survey system (SurveyMonkey), which could be also used for many other surveys at the same time, in effect reducing the cost of all the four surveys. The time required to finish each survey is just several minutes; however, the analysis of the survey results and comparisons with the actual data takes more time.

**Accuracy:** the primary purpose of the model under study is to test whether those experts are able to predict the influence of the financial crisis on European city tourism. So the accuracy is also important.

The actual change in bednights for European cities in 2009, according to TourMIS (2<sup>nd</sup> March 2010), is -3.2 percent which is less negative than the forecasting results (March: -3.6%, June: -5.2%, September: -4.9%) obtained in the ECM surveys throughout different times of the year. However, there is another phenomenon that should be mentioned. Given that normally the actual data is available three months later, experts should have known the actual data of the first quarter in 2009 when they did the forecast in June, and, in a similar manner, they should know the actual data of the second quarter in September which might influence their judgments for the next quarter. A comparison of the forecasting results with the actual data illustrated in Table 15 proves to a degree the previously mentioned assumption.

<b>Time</b>	<b>March</b>	<b>June</b>	<b>September</b>	<b>Jan. 2010 for 2010</b>
<b>Forecasts from ECM SURVEY</b>	-3.6	-5.2	-4.9	1.1
<b>Period of time</b>	<b>2008</b>	<b>1<sup>st</sup> quarter</b>	<b>2<sup>nd</sup> quarter</b>	<b>3<sup>rd</sup> quarter</b>
<b>Actual overnights from TourMIS</b>	0.9	-6.1	-5.3	0

**Table15: Comparison of forecasts and actual data (% p.y.)**

The judgments about tourism demand in the near future made by tourism experts is not that accurate which might result from the influence of actual data available and experts' wishes about market performance. However, in the survey experts prove themselves to be very sensitive to changes in the market and that they have the ability to adjust their forecasts over time.

This said, the actual data is based on the result of 2<sup>nd</sup> March 2010 -- not all the cities have uploaded their data for the last months of 2009. Therefore the actual data could be biased because of limited input.

## **5. Suggestion for improvement**

### **5.1 Different ways for improvement**

Harvey (2001) points out that forecasts could be suboptimal in two ways: inconsistency and bias. Also, he indicates that “inconsistency is a random or unsystematic deviation from the optimal forecast, whereas bias is a systematic one” (p.59). Both of them can happen at different stages of forecasting from “comprising formulation of the forecasting problem, choice of method, application of method, comparison and combination of forecasts, assessment of uncertainty in forecasts, adjustment of forecasts, and evaluation of forecasts” (Harvey, 2001, p.59). Inconstancy could be caused by variation in the way the forecasting problem is formulated; or in the choice or application of a forecast method; or the forecasting method itself could bring a random element into the forecast especially when involving judgmental opinions. Biases normally happen automatically when a certain type of forecasting method is applied in practice, no matter quantitative method or qualitative method.

How to reduce inconsistency and bias during judgmental forecasting? Harvey (2001) first made summaries of suggestions from other authors such as “systematize and structure various aspects of forecasting process; combine estimates from different sources to reduce inconsistency; limit the use of judgment to aspects of forecasting process that can benefit from it; eliminate or cancel out biases after they have been introduced” (p.60). Then he concluded with seven principles from published researches for improvement “use checklists of relevant information to the forecasting task; establish common and easily-understanding criteria for using a forecast method; keep records of forecasts in order to get feedback afterwards; use graphical form for studying data instead of tabular form when making judgmental forecasts; “draw a best-fitting line through the data series” to reduce inconsistency; use multiple methods in judging the degree of uncertainty for time-series forecasting; and use different individuals for forecasting task and developing and implementing task” (Harvey, 2001, pp.61-62). And conditions under which those principles can be applied as well as implications for practitioners and researchers are also explained in Harvey’s 2001 study.

Returning to the empirical study in this paper, experts’ judgmental forecasting of

tourism demand in European cities during the global financial crisis could be improved based on those principles suggested by Harvey.

**Forecasting method:** since the forecasting method used in this study is people's judgmental opinion, the method itself bears the disadvantages familiar to subjective judgments. For example, people tend to mix up personal wishes for the future with their forecasts, are easily influenced by the current situation in the market and become overly optimistic or pessimistic. Even worse, the participants who make forecasts are not always competent. Therefore, it is very important for any kind of judgmental task to find out who the real experts are. At the same time, in forecasting other methods should be combined in order to compensate for the disadvantages of judgmental opinions.

**Participants:** as the survey is not compulsory, each time the participating cities and number of participants from each city are different. For example, while 46 cities took part in the first two surveys, only 34 cities responded to the first three surveys, and the number dropped to 26 for all four surveys. Therefore, the forecasting result might reflect the estimates of experts in different destinations each time that is not the comprehensive opinion of European city tourism experts. Additionally, the composition of participants is also not consistent throughout the surveys. As the number and composition of experts changed in each survey, the comparison of each forecasting result is also biased. The ideal situation would be that each city has a certain number of people participating in all surveys, and those people are supposed to be the real tourism experts in their cities.

**Actual data:** the actual data used in this thesis are from TourMIS and UNWTO. UNWTO has the most comprehensive data for tourism globally; however, it focuses on international tourism and compiles the data of international tourist arrivals at a country, regional and global level. This said, it could not offer the actual total change of tourism demand in European cities.

Although TourMIS represents the right target group, that is European city tourism, and has standardized methodologies for collecting data among all of the destinations, the actual data of some very important destinations, such as major Italian and French cities, are missing in the system as uploading the data is done on a voluntary basis by DMO in each city. This explains why the data from TourMIS also cannot provide a sufficient representation of the overall situation of

tourism in European cities but only reflects the change of tourism demand in those destinations that upload data regularly. Although statistics is connected to many different aspects inside a country, which are hard to change in a short period, it is possible to collect the data of tourism on a city level as most European cities have their own tourism organizations, and market research is usually one of the major responsibilities of DMO.

## **5.2 Combined forecasting**

Combined forecasting method is introduced by Bates and Granger (1969), and their seminal paper shows that the combination of individual forecasts often outperform individual forecasts alone. This belief has been cited very often since its publication and became the foundation for later development in combining forecasts. Bates and Granger (1969) argued in their paper that when alternative methods for forecasting are available, those methods should be included in the analysis and a combined forecast should be created such as, for example a weighted average of the individual constitute forecasts. Thomson et al. (2002) also conclude that the combination of individual judgmental forecasts can improve predictive accuracy that has been found to integrate and change individual assessments into a final group judgment “with group prediction displaying higher accuracy as well as higher confidence.”

Newbold and Harvey (2002) further developed Bates and Granger’s opinion mentioning “when a record is available of past performance, the weights to be attached to each individual forecast in the combination can be chosen objectively, so that most weight is given to the approach that has performed best in the recent past.” They also list out four reasons for the continuing and extensive interest in researching and practicing forecast combination:

*“First, the concept is intuitively appealing [...] analogous to that of investment in a portfolio of securities in preference to a single stock: risk is diversified. Second, although some technically elaborate methodologies have subsequently been proposed [...] to determine a specific combination are very simple to understand and implement. Third, and the most important, there is a wealth of evidence from empirical studies that combination works well in practical application, and it is often found that the combined forecast outperforms all individual forecast. Finally,*

*combination leads naturally to the concept of forecast encompassing as a very valuable tool in the evaluation of forecasts.” (Newbold and Harvey, 2002, pp.268-269)*

Beyond combining individual’s judgment, there is also a combination between statistical and judgmental models. According to Thomson et al. “statistical models could be used to aggregate individual judgments into staticized group forecasts, with the latter potentially yielding superior predictive performance than both individual judgments and the interactive group judgment” (2002, p.140). Sanders and Ritzman (2004) developed four integration methodologies between judgmental forecasts and quantitative forecasts which are “judgmental adjustment of quantitative forecasts, quantitative correction of judgmental forecasts, combining judgmental and statistical forecasts and judgment as input to model building” (Sanders and Ritzman, 2004, pp.518-521). They also list out the advantages, disadvantages and suitable conditions for each method.

Many studies show that simple and straightforward combination methods require simple calculation and, at the same time, generate high quality forecasts as the combination of forecast is “a beautiful rarity” that is simple and easily to implement, works well and most importantly it is used in practice (Newbold and Harvey, 2002). The recent development in forecasting function in TourMIS known as “My best estimate” applied this proposal (Croce and Wöber, 2011). It uses a combination that not only combines quantitative methods and qualitative method but also combines the different individual judgments of its users in order to estimate the demand of city tourism in Europe for the short term. First, the system generates statistical models’ forecasts automatically based on the historical data in the system by using naive 2 and exponential smoothing models, which are basic quantitative models. Then the user can adjust his/her estimate based on the given number, as users are supposed to have a better understanding and perception of the influence of future events or festivals which are planned for the destination. Then the system will compare the actual data and forecasts automatically when the actual data are entered.

Therefore the final estimation provided by TourMIS is based on all of the estimations made by users, and the weight is decided by the accuracy of the previous forecasts made by the user. Of course for the first time only the averaged

weight is given, as there is no historical record. The new forecasting function on TourMIS can not only provide the combined forecast based on historical data and different judgmental opinions but also can help to find out who are the real experts in forecasting the demand of European city tourism in much wider boundaries as TourMIS users come from all over the world via the Internet. Also, users represent a broad segment including professionals, staff working in the tourism industry, researchers, professors and students.

## 6. Conclusion

According to UNWTO's press release, "International tourist arrivals are estimated to have declined worldwide by 4% in 2009 to 880 million" [12]. The data on TourMIS show the decline in Europe is slightly less than worldwide with a 3.2 percent decrease in bednights and 2.6 percent decrease in arrivals. The global economic recession did have a very negative impact on the worldwide tourism industry. However, people still travel no matter what kind of situation they are in. With the recovery of the financial situation, tourism is also on the way to recovery as proven by both the latest data and people's confidence. However, it is necessary for the industry to monitor and forecast the trend in tourism for different situations and then make different strategies accordingly.

The empirical study in this thesis shows that during the time of the global financial crisis, the forecasts made by tourism experts for the short-term tourism demand in European cities are sufficient and helpful. Experts are aware of the financial and economic situation globally and locally and also the market trend of tourism in their cities. In general, experts are able to predict the effects of the financial crisis on European city tourism, forecast the market trend based on the information they have and adjust their judgments with passing time. However, like any kind of judgmental forecasting method, the forecasting results are biased as there is still a difference between the forecasts and the actual data. The actual change in bednights for European cities in 2009, according to TourMIS (2<sup>nd</sup> March 2010), is -3.2 percent, which is less negative than the forecasting results (March: -3.6%, June: -5.2%, September: -4.9%) obtained in the ECM surveys at different time of the year.

Overall, expert forecasting is fast, convenient and feasible during the time of crisis. However, the accuracy of people's judgmental opinions is not as satisfactory as expected. Therefore quantitative methods, or a forecasting support system, are still necessary in order to improve the accuracy of the judgmental forecasts. In this study, if the historical data had been available and forecasts based on that (quantitative methods) were calculated first, experts could have made their forecasts from the given numbers, which should improve the accuracy of forecasts in the end. Nevertheless, a forecasting support system is needed to "encourage forecasters to a statistical model and to focus their attention on the elements where

their judgment is most valuable” (Thomson et al. 2002, p.141). Further study about how to combine a forecasting support system with people’s judgmental opinions and how to guide and encourage people to use the support system is necessary in the future.

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## Appendix 1: Questionnaire of the ECM survey

In order to monitor the impact of the crisis on the number of visitors in our respective cities, the ECM Research & Statistics working group and the Head Office agreed to conduct quarterly opinion polls based on a panel of experts in city tourism. The number of experts in each ECM member city is limited to 4 and it is up to the city to decide who should participate.

Your help in returning this questionnaire by October 12th is crucial. Answering all questions takes seven minutes only. We very much appreciate your efforts and input.

The results and a short analysis of the opinion poll below will be sent to all participants very shortly after the end of the survey period.

1. Name of your city/organization.

2. For which type of organization do you work? (several answers possible)

*CTO, Convention Bureau, Other*

3. What is your function within your organization?

*CEO, Marketer, Researcher/Analyst, Other*

4. In the second quarter of 2009 and compared to the same period in 2008, do you think – based on your own perception and experience - the number of bednights for the market segments below will be?

	Increase more than 5%	Increase from 1% to 5%	Approx. the same	Decrease from 1% to 5%	Decrease more than 5%	Don't know
Leisure						
MICE non-corporate						
MICE corporate						
Individual business travelers						

5. In the second quarter of 2009 and compared to the same period in 2008, do you think – based on your own perception an experience - the number of bednights from the source markets below will be:

	Increase more than 5%	Increase from 1% to 5%	Approx. the same	Decrease from 1% to 5%	Decrease more than 5%	Don't know
Total						
Domestic						
International						
American						
British						
French						
German						
Italian						
Spanish						

6. In the second quarter of 2009 and compared to the same period in 2008, do you think – based on your own perception an experience - hotel room prices will be:

	Increase more than 5%	Increase from 1% to 5%	Approx. the same	Decrease from 1% to 5%	Decrease more than 5%	Don't know
Hotel prices						

7. Please provide your current best estimate for the relative change of the number of total bednights in 2009 (whole year) compared to 2008.

*Total bednights in 2009 (whole year) compared to 2008 will change(percentage)*

8. In your opinion, what will be the key factors for an increase/decrease in the total bednights in your city in the next quarter?

## Appendix 2: Example report for the ECM survey



### The Impact of the Financial Crisis on European City Tourism - Report on the 1<sup>st</sup> Member Survey 2009

In order to monitor the impact of the crisis on the number of visitors in the respective cities, the ECM Research & Statistics Working Group and the Head Office agreed to conduct quarterly opinion polls based on a panel of experts in European city tourism. The survey was conducted online between March and April, and the number of experts in each ECM member city was limited to four participants invited by the ECM member city.

In the survey, there are nine questions in total; four are general questions about the background information of the respondent, and the other five questions are concerning the experts' perceptions of the influence of the financial crisis on city tourism for the second quarter of 2009.

#### 1. Participant information

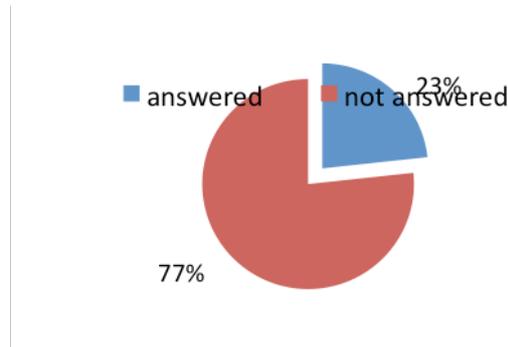


Fig. 1: Number of Experts

ECM has 117 member cities; Members were invited to participate with up to four experts, which means that potentially 468 experts could have participated in the survey. 109 experts completed the survey, but just two cities, Amsterdam and Oslo, had four experts answering the questions. The ratio of actual to potential experts answering the survey is relatively small, only 23%, which is shown in Figure 1. 42 cities did not participate in the survey, and 48 cities participated with only one expert. The detailed number of all the 117 cities that completed the survey is shown in Figure 2.

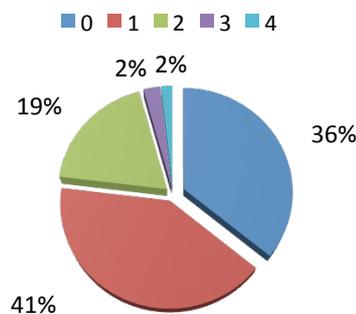
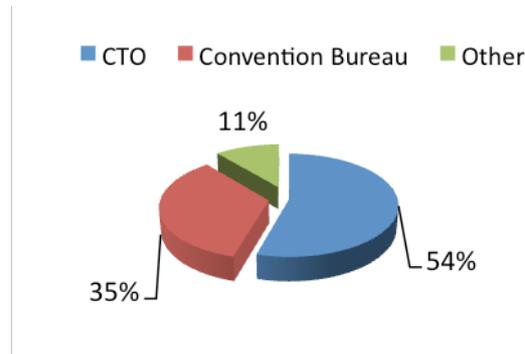


Fig. 2: Number of Participants per City

The result of this survey could be biased in reflecting the complete perception of experts in all the major cities in Europe, due to no answer from 42 cities. Since there are just 5 cities that had 3 or 4 experts answering the survey, the problem of only having opinions from several cities is marginal.

2. For which type of organization do you work? (multiple answers)

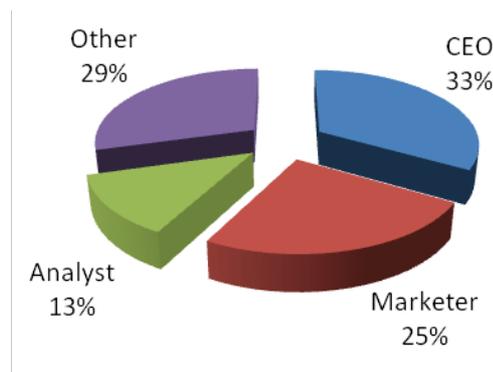


**Fig. 3: Type of Organization**

Type of organization: nearly 90% of the 104 respondents (5 people skipped this question) are from CTOs and convention bureaus, which reflects the membership structure of ECM.

In the specified answer, we can also find that there are several people who are from other service providers like ports, airports, hotels, and touristic sites of a city. The expertise of people who work at the front line in tourism are particularly important for assessing current changes in tourists' behavior and the latest tourism demand trends in their destination.

3. What is your function within your organization?



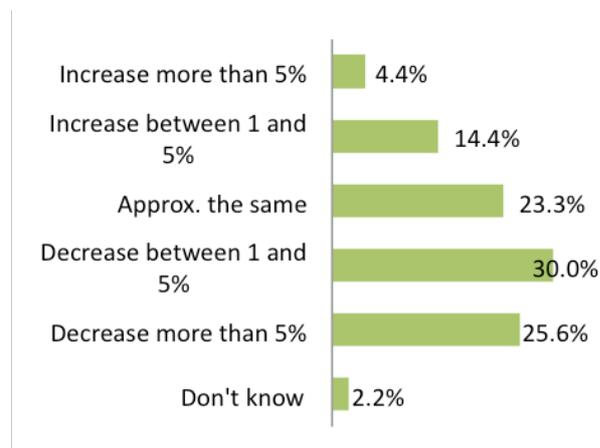
**Fig. 4: Function of the Experts in the Organization**

The function of the respondents is mainly CEO, director or manager in the organization, and people in departments of marketing, promotion and business development. There are also several people from other positions such as secretary, assistant and technician, PR and media. So most of them should have rich experience in analyzing the market, figuring out the changes in the market and estimating the future performance. There are 7 people who skipped this question.

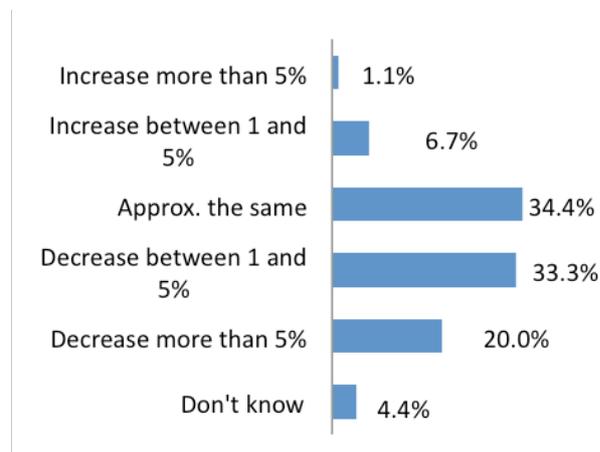
4. In the second quarter of 2009 and compared to the same period in 2008, what do you think the number of bednights for the **main market segments** will be?

The bednights are estimated to drop generally for the second quarter compared with the same time last year, especially for individual business travelers and MICE corporate.

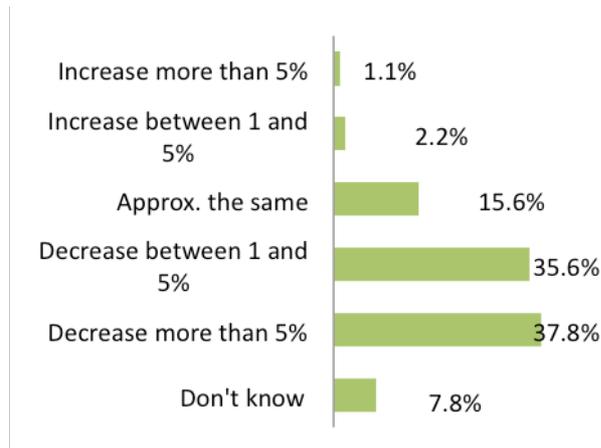
Over 70% of the respondents believe that the bednights of MICE corporate and individual business travelers in their city will fall at least 1%, and more than half among them expect the decrease to be more than 5%.



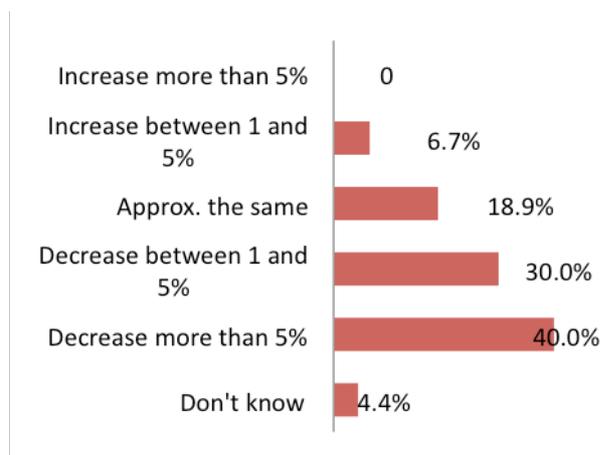
**Fig. 5: Forecast of Bednights for Leisure Segment (n=90)**



**Fig. 6: Forecast for Bednights of MICE Non-Corporate Segment**



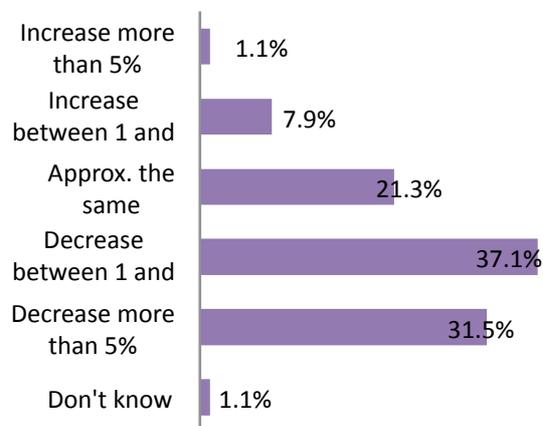
**Fig. 7: Forecast for Bednights of MICE Corporate Segment**



**Fig. 8: Forecast of Bednights for Individual Business Travelers**

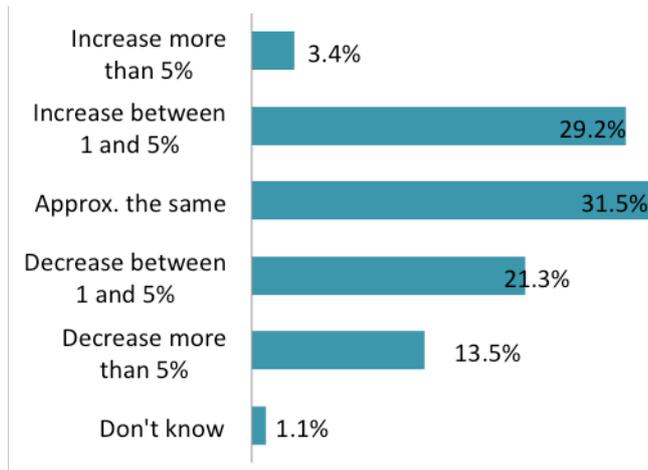
The comparatively optimistic forecast is for MICE non-corporate, such as some organizations and associations. The estimation for leisure traveling is also negative, 30% believe it will fall between 1% and 5%, and 25.6% think it will drop more than 5%.

5. In the second quarter of 2009 and compared to the same period in 2008, what do you think the **number of bednights from the source markets** will be?

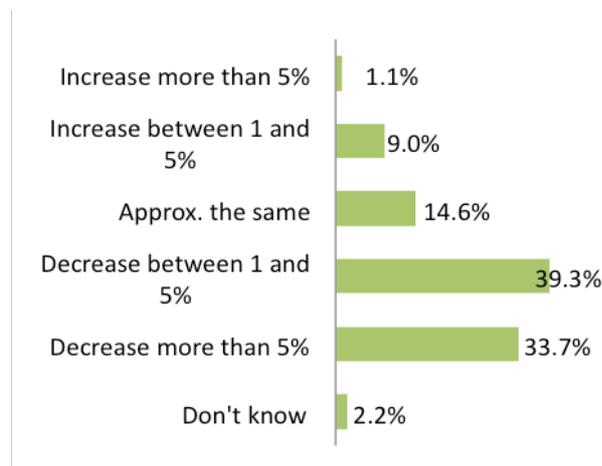


**Fig. 9: Forecast of Total Bednights 2009**

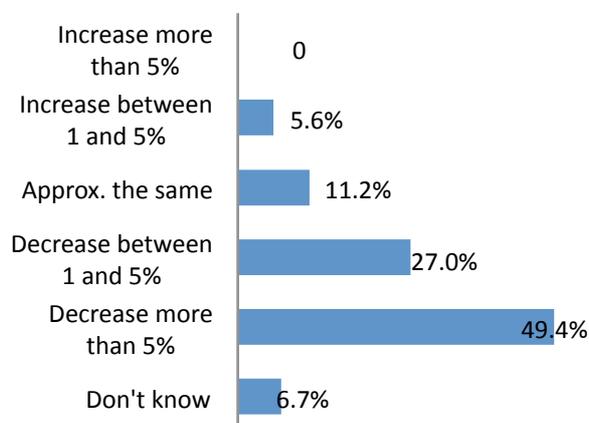
From the answer, it is obvious that most respondents believe that domestic tourists are the most important source for city tourism in the second quarter of 2009 compared with other major source markets. Around 64% of the respondents believe the domestic tourists will at least stay at the same level compared with last year, while the worst expected performance is the tourists from America and Britain, nearly half of respondents think it will decrease more than 5%.



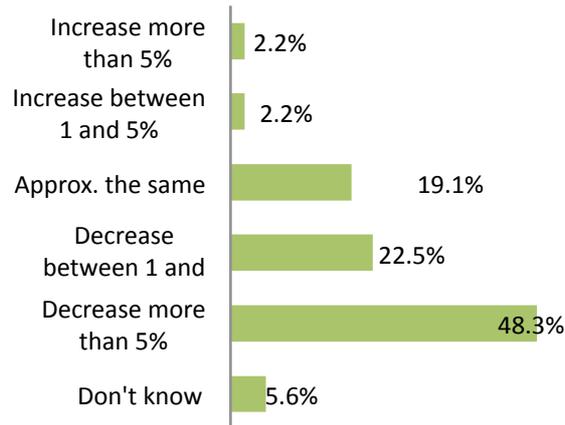
**Fig. 10: Forecast of Domestic Bednights 2009**



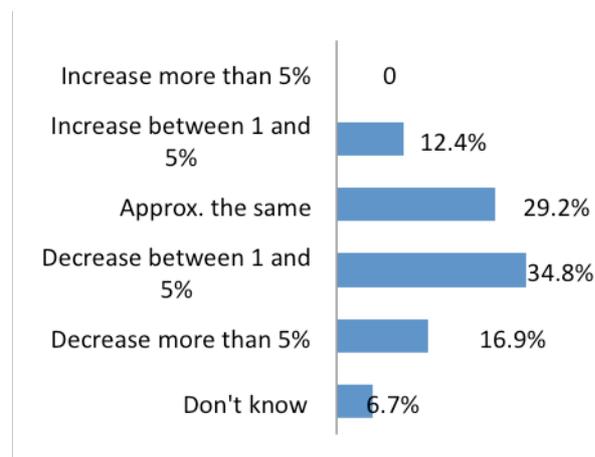
**Fig. 11: Forecast of International Bednights 2009**



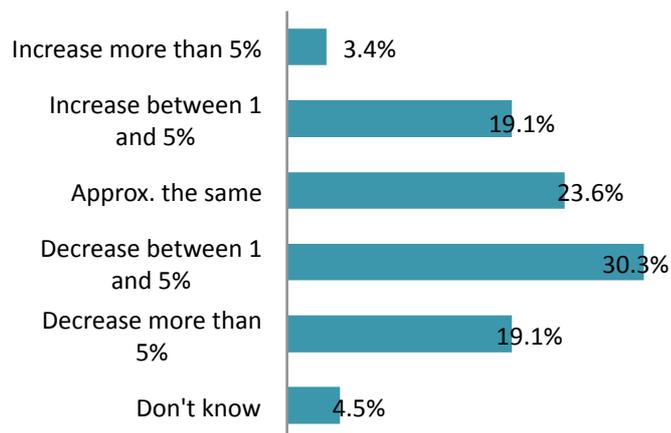
**Fig. 12: Forecast of Bednights of American Tourists 2009**



**Fig. 13: Forecast of Bednights of British Tourists 2009**



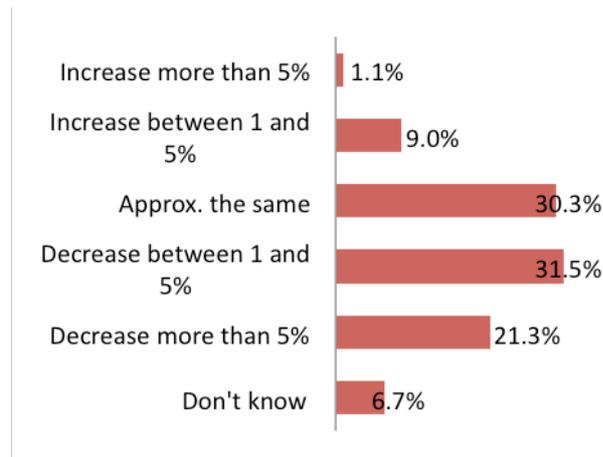
**Fig. 14: Forecast of Bednights of French Tourists 2009**



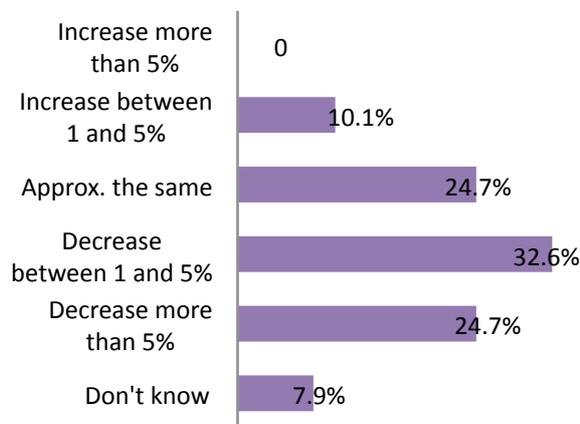
**Fig. 15: Forecast of Bednights of German Tourists 2009**

This point of view is caused by the economic crisis, which came from America and badly influenced the consumer markets of America and Britain. At the same time, it is generally believed that people will travel regardless of economic or even security concerns. So it is very possible that people would stay in their own

country for holiday this year.



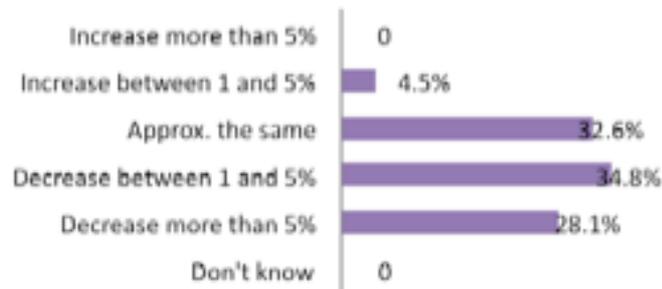
**Fig. 15: Forecast of Bednights of Italian Tourists 2009**



**Fig. 16: Forecast of Bednights of Spanish Tourists 2009**

Concerning individual markets, France and Germany are expected to perform the best among the major tourist source countries, with a little bit more than 40% of respondents believing the tourists from France and Germany will at least stay at the same level. The order of expected performance from other source markets is Italian, Spanish and international tourists in general.

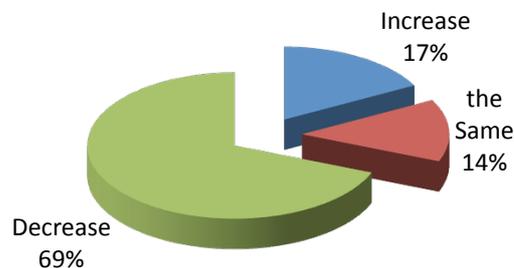
6. In the second quarter of 2009 and compared to the same period in 2008, what do you think **hotel room prices** will be?



**Fig. 17: Change of Hotel Price**

As for the hotel price, more than 60% of respondents believe that the price level will decrease at least by 1%, while 32.6% of people think the price will stay at the same level compared with 2008. Both ratios are a little more optimistic than the expected total bednights (68.6%, 21.3%) showed in Figure 9. This is probably because experts know that lowering the price is not a good strategy since it could take years to return to the same level as before. However, there is nobody who believes the hotel price will rise more than 5%. 20 experts did not answer this question.

*7. Please provide your current best estimate for the relative change of the number of total bednights in 2009 (whole year) compared to 2008.*



**Fig. 18: Estimated Change in Bednights 2009**

For the estimation of total bednights in 2009 compared to 2008, only 15 experts among the 87 respondents (17%) think the number will increase (see Figure 18). The most frequently selected answers among all experts is -10% (16.1%) and -5% (14.9%). Overall, the estimated average change of bednights is -3.6%.

*8. In your opinion, what will be the key factors for a change in the total bednights in your city in the next quarter?*

This is an open-ended question about the factors that can influence the bednight of a city; however, like in many cases, open-ended question always are most often skipped. 38 people out of 109 (34.9%) did not reply to this question. For those respondents who answered the question, a large amount of them wrote more than three factors, and the factor mentioned more than once are listed below.

Main factors for increase:

- extra sales promotion activities on key and new markets,
- new direct flights,
- many upcoming long weekends,
- host city of major international congresses or events,
- exchange rates will be an advantage,
- more domestic travelers,

- more competitive hotel prices and airfares,
- VAT reduction on restaurant bills,
- expect nice weather.

Main factors for decrease:

- economic crisis,
- lack of consumer confidence and trust,
- depend a lot on international tourist,
- hotel prices are not competitive,
- exchange rates will be a disadvantage,
- competition from destinations outside Eurozone will increase,
- increase in unemployment rate.

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### Appendix 3: International arrivals in European cities from TourMIS

Period	Amsterdam	Antwerp	Berlin	Bonn	Bratislava	Bregenz	Bruges
2009/1	-16.9	-5.2	0.0	-3.6	-11.1	14.5	3.1
2009/2	-14.8	-14.3	-7.4	-7.5	-28.7	2.4	-12.8
2009/3	-10.2	-13.9	-1.8	12.9	-17.8	7.8	-15.5
2009/4	-0.4	-10.3	8.5	-25.5	-25.7	16.6	6.5
2009/5	0.4	-17.7	-0.9	-15.2	-34.4	-5.6	-5.4
2009/6	-2.7	-8.2	8.6	-14.2	-29.4	-7.9	1.4
2009/7	9.4	-9.5	11.9	12.1	-23.2	3.9	1.9
2009/8	5.7	-9.9	5.0	-2.2	-15.6	11.9	-10.6
2009/9	6.8	-11.2	3.2	-12.3	-19.4	-0.5	0.4
2009/10	7.2	-6.4	0.9	1.8	-7.4	-7.9	3.6
2009/11	16.1	-15.1	13.9	-15.1	-14.1	-21.9	
2009/12			13.7	-2.2	-4.6	3.1	
	Budapest	Dijon	Dresden	Dubrovnik	Eisenstadt	Genua	Ghent
2009/1	-17.3	5.8	8.3	14.2	-9.9	-9.3	-13.8
2009/2	-29.1	-14.3	4.9	0.0	37.4	-5.7	-14.5
2009/3	-21.2	-42.3	-13.0	-39.4	19.8	-19.0	-17.5
2009/4	-12.4	14.1	-1.9	6.2	22.2	2.3	-10.3
2009/5	-12.8	-6.2	-3.8	-4.5	-6.1	-2.3	-4.7
2009/6	-7.8	-16.8	-5.7	-1.5	-40.9	-2.7	-10.1
2009/7	-11.0	12.4	-2.6	12.1	10.3	10.4	-2.7
2009/8	-6.0	5.4	-1.8	10.2	14.6	-1.2	2.1
2009/9	-9.2	-1.9	3.5	-2.1	31.0	11.3	3.4
2009/10	-5.6	0.1	-1.4	2.5	-20.8	16.7	10.9
2009/11	-1.0	-3.2	-4.8	6.0	19.0	-13.1	
2009/12	2.6	-11.0	7.2	-22.1	-2.5	1.9	
	Gijón	Graz	Heidelberg	Helsinki	Innsbruck	Klagenfurt	Linz
2009/1	8.1	-16.3	-31.2	-6.7	1.2	-15.1	-9.1
2009/2	-20.2	-14.7	-36.5	-23.1	-10.8	-6.8	-13.9
2009/3	-29.2	-7.2	-2.5	-19.9	-22.5	-6.6	1.8
2009/4	10.3	-5.2	-19.5	-23.0	-6.0	-16.7	-14.5
2009/5	-11.1	-13.8	-4.2	-8.3	-16.5	-15.0	-2.4
2009/6	-34.7	20.5	-11.5	-8.6	-25.2	-46.6	12.2
2009/7	-18.2	-8.4	-9.1	-12.6	-16.1	-6.9	-3.3
2009/8	-24.9	13.4	-13.6	-8.1	-17.0	6.2	5.9
2009/9	-28.3	-4.7	-15.6	-9.0	-9.6	7.8	3.1
2009/10	-17.5	19.1	-8.6	-7.6	-10.9	1.6	-6.6
2009/11	-31.7	17.9	-5.8	-9.9	-4.4	10.2	-8.2
2009/12	-21.6	5.2	8.5	-4.6	6.1	9.1	-10.5
	Lisbon	Ljubljana	Madrid	Malmö	Munich	Novi Sad	Nürnberg
2009/1	-13.8	-17.0	-3.3	-4.0	-8.5	2.2	-11.5
2009/2	-20.1	-20.6	-11.6	9.3	-14.6	-6.7	-7.6
2009/3	-21.2	-19.8	-7.8	2.9	-10.9	5.9	17.7
2009/4	-0.9	-16.6	-6.4	21.4	-10.2	5.8	-19.1
2009/5	-11.4	-9.4	-4.2	15.6	5.2	4.6	-21.5
2009/6	-8.0	-3.7	-8.3	0.5	-10.2	5.3	-15.6
2009/7	-5.1	-0.3	-3.1	36.3	3.4	-2.6	-7.9
2009/8	3.8	10.0	-0.2	22.4	-3.3	9.6	-9.9
2009/9	-1.3	-1.3	4.4	22.8	13.2	-13.7	-15.1
2009/10	-1.2	6.4	10.1	46.1	4.3	24.1	-18.5
2009/11		3.9	5.0	31.8	14.2	-28.5	-9.9
2009/12		5.2	12.8	39.5	18.5	-8.8	6.2

Period	Pairs	Reims	Salzburg	San Sebastian	Split	St. Pölten	Stockholm
2009/1	-9.6	1.9	4.6	-20.5	3.4	6.7	-8.6
2009/2	-22.0	-20.8	-13.5	-19.4	-34.4	-5.9	-8.9
2009/3	-20.5	-39.0	-21.9	-12.4	-30.1	37.9	-2.6
2009/4	-0.3	-0.3	12.1	-3.4	-23.9	0.7	2.1
2009/5	-10.2	-8.7	-7.0	9.3	-15.8	-16.3	-0.9
2009/6	-4.3	-5.6	-20.6	4.2	-6.3	-35.2	9.7
2009/7	1.2	-1.8	-2.2	12.4	-10.2	-10.8	10.4
2009/8	-4.6	-6.9	-3.5	-2.1	-11.5	-5.7	8.3
2009/9	-0.4	-2.5	2.1	16.1	-18.7	6.6	-1.2
2009/10	-2.8	-2.6	-0.7	13.1	-10.5	-29.2	2.5
2009/11	3.4	-3.6	-5.5	3.6	-18.2	-23.5	
2009/12	2.7		3.8	2.1	-25.0	-18.9	
	Tallinn	Tampere	Vienna	Weimar	Zagreb	Zurich	<b>Total</b>
2009/1	10.0	-5.5	-4.7	-4.0	1.0	-4.9	<b>-4.8</b>
2009/2	-14.0	-17.1	-11.9	-7.1	-13.2	-12.5	<b>-12.3</b>
2009/3	-19.0	-15.2	-13.7	36.0	-8.7	-2.0	<b>-9.8</b>
2009/4	-1.2	-22.9	0.2	-17.2	-8.3	-7.2	<b>-4.4</b>
2009/5	-11.9	-2.2	-9.0	18.6	-11.3	-7.4	<b>-6.9</b>
2009/6	-8.6	-11.3	-9.8	13.2	-10.2	4.6	<b>-8.6</b>
2009/7	1.8	-1.4	-7.0	22.7	-6.2	0.9	<b>-0.2</b>
2009/8	3.0	-23.5	-2.1	36.9	5.9	-0.6	<b>-0.1</b>
2009/9	-5.1	-14.6	-6.8	28.4	-13.1	2.5	<b>-1.2</b>
2009/10	7.8	-10.4	-3.2		-13.0	2.0	<b>-0.3</b>
2009/11	-5.4	-24.9	-4.6		-11.8	9.9	<b>-3.6</b>
2009/12	16.9	-16.9	3.1		-4.6	10.0	<b>0.8</b>
					<b>Average change</b>		<b>-4.3</b>