The Systematic Risk Determinants of Tourism Industry in Turkey

Çiğdem Arslan

Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the Degree of

Master of Science
in
Banking and Finance

Eastern Mediterranean University
January 2013
Gazimağusa, North Cyprus

Approval of the Institute of Graduate Studies and Research

Prof. Dr. Elvan Yılmaz
Director

I certify that this thesis satisfies the requirements as a thesis for the degree of Master of Science in Banking and Finance.

Assoc. Prof. Dr. Salih Katırcıoğlu
Chair, Department of Banking and Finance

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Science in Banking and Finance.

Assoc. Prof. Dr. Salih Katırcıoğlu
Supervisor

Examining Committee

1. Prof. Dr. Cahit Adaoğlu

2. Assoc. Prof. Dr. Salih Katırcıoğlu

3. Assoc. Prof. Dr. Nesrin Özataç

ABSTRACT

Many empirical research has been performed about systematic risk wich related firm specific variables to the Capital Asset Pricing Model (CAPM) (Ying & Cheng, 2007). This thesis studies six listed tourisms industries in Turkey which are five different hotels from five different geographic areas in Turkey and Turkish Airline for the period of 1997-2011. Panel econometric analysis is employed with six financial variables which are explored as determinants of systematic risk in this respect. Financial indicators such as, the liquidity, debt leverage, operating efficiency, profitability, firm size and growth of the hotels are also linked to their systematic risk of the tourism industry in Turkey. Models which releted with systematic risk end up that, growth are negatively associated with the systematic risk. However; liquidity, debt leverage, operating efficiency and profitability are not found statistically significantly related to the systematic risk. Results of this research will be important in effectively managing the hotel business not only in Turkey but also in other tourist destination countries.

Keywords : Systematic risk (Beta), Financial Variables, Listed Companies, Systematic-risk determinants.

ÖZ

Türkiye'nin turizm sektöründe faaliyet gösteren beş farklı oteli ve THY da dahil olmak üzere 1997-2011 yıl aralıkları ele alınarak oluşturulan veriler bu çalışmada kullanılmıştır. Panel serili ekonomik analiz kullanılarak incelenen altı finansal değişken bu bağlamda sistematik risk belirleyicileri olarak test edilmiştir. Likidite, borç kaldıracı, işletme verimliliği, işletme karlılığı, firma genişliği ve büyüme oranı gibi mali göstergeler dikkate alınarak Türkiye'nin turizm sektöründeki sistematik riski belirlenmeye çalışılmıştır. Bu bağlamda büyüme oranının sistematik risk ile ters orantılı boyutta yükseldiği sonucuna varılmış ancak, likidite, borç kaldıracı, işletme verimliliği ve karlılık oranlarının sistematik riskle önemli ölçüde ilişkisine rastlanılmamıştır. Bu çalışma sonuçları; gerek Türkiye 'de gerekse diğer ülkelerdeki turizm firmalarının yönetimleri için önem arz etmektedir.

Anahtar Kelimeler: Sistematik risk (Beta), Finansal Değişkenler, Halka açık şirketler, Sistematik risk belirleyicileri.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ADF, M-W…….....Augmented Dickey Fuller, Maddala and Wu

B.....Systematic Risk (Beta)

CAGR.....Compound Annual Growth Rate

CAPM…….……...…….....Capital Asset Pricing Model

DL.....Debt Leverage

FS.....Firm Size

GDP.....Gross Domestic Product

GW.....Growth

IPS..... Im, Pesaran and Shin

ISE……...……..…….…….…….Istanbul Stock Exchange

LIQ.....Liquidity

LLC..... Levin, Lin and Chu

OE.....Operating Efficiency

PP..... Phillips Perron

PROF.....Profitability

ROA.....Return on Assets

SF.....Safety

SI…….…….Stock Index

WTO.....World Trade Organization

Chapter1

INTRODUCTION

1.1 Background:

Tourism is undoubtedly among the largest industries which play significant role in acceleration of global economical growth all over the world. However, very few studies exist in the literature to exhibit the relationship between tourism and economic growth (Oh, 2005). Turkey economy, which has outpaced the world, has drastically benefitted from the contributions of tourism in reducing unemployement, raising national GDP and improving the country`s balance of payments. Statistics reveal that number of touristic visitors to Turkey rose from 1.1% (1990) to 2.7% in 2008. Thus, the proportion of tourism receipts in global tourism GDP increased to 2.3% in 2008, from 1.2% in 1990 (Tourism Highlights, UNWTO, 2009). Thanks to Tourism encouragement law (No. 2634) enacted in 1982, tourism industry and especially Turkish tourism, which became a center of attraction for Western Europe, gained momentum. Since 2000, this momentum has continued so far except the year 2006, which witnessed changes in travel patterns due to World Cup in Germany. Despite, the economical troubles in 2008, Turkey succeeded in luring more than 26 million international and 4 million domestic tourist (Ministry of Culture and Tourism, 2009).

Tourism industry is vulnerable fragile, high environmental and systematic risk ignited by various uncontrollable external factors as war, terror, recession and fluctuations in fuel prices.

Finance and accounting literature, have devoted remarkable attention to spot and identify the systematic risk determinants as generally measured by beta.

The beta indicates investors` collective jugdement pertaining to identification of macroeconomic circumstances those affect firms, marketing policy, production policy, firm policies and decisions, which are affected by corporate financial policy (Ben-Zion & Shalit, 1975; Logue & Merville, 1972).

Capital Asset Pricing Model (CAPM), divides a company's total risk into two: unsystematic and systematic risk (Lintner, 1965; Sharpe, 1963, 1964). While systematic risk pertains to market, unsystematic risk is related to an individual firm (Rowe and Kim, 2010). Unlike; systematic risk, unsystematic risk can be removed or reduced by diversification. In CAPM, in order to determine required return of an investor, systematic risk is relevant incontrast to unsystematic risk (Gu and Kim, 2002). Because systematic risk is applied to the whole market or market segment, it is generally defined as market or undiversifiable risk. On the other hand, unsystematic risk is company or industry-specific which is inherent in any investment decision.

Tourism industry is also a highly volatile one; many ups and downs take place in countries as a result of economic conditions.

Therefore, risk is always associated with this industry as well. On the other side of the coin, while WTO (World Trade Organization) supports tourism industry to become the fastest growing industry all over the world to reap political, economic and income gains, tourism, by its nature, is encircled by many threats such as tourist attitudes, operations of the travel trade and tourism policies. Various threats to tourism emerge not only at the point of destination but also at that of origin.

Both specific (between two people, two nationalities or two regions) or generic (between the West and the East) conflicts such as physical, psychological, cultural or ideological are likely to exist and/or emerge. (Threats and Obstacles toTourism, Unit 35).

Perceived risk has received considerable and attention from tourism research. It is regarded as an obstacle to lure tourists and is a managerial aim to reduce. Due to intangibility of touristic products, a tourist`s decision is almost impossible to evaluate the service or product before consumption and thus subject to risk.

As it holds a considerable household expenditure, risk is always critical in decision making process for a tourist (Roehl and Fesenmaier, 1992). Therefore, minimizing the risk perception attached to the purchase decision to help a potential tourist is crucial. KPMG, a consulting firm, in its report reveals that tourism is too fragile, sensitive and least prepared to climate changes. Gunnar Walzholz, a senior consultant at KPMG, informs that “Heat waves, droughts and rising sea levels are some factors that will directly impact the industry in the short term.

In the longer term, water shortages and scarcer resources may lead to social conflict, which could adversely affect the stability of the tourism sector." (Stancich, 2008).

Various past studies point at the significant impacts of systematic risk on financial variables in different industries. According to Logue and Merville (1972) , liquidity, debt leverage, operating efficiency, profitability, firm size, growth, and safety are the financial variables which affect systematic risk. Many studies have focused on different industries to determine financial variables which have influence on beta. To estimate the association between beta and financial variables, Lee and Jang (2006) incorporated US airline industry, Rowe and Kim (2010) casino industry, Gu and Kim (2002) restaurant industry.

Because managerial decisions about operations, investments and financing affect a company` s performance, how its returns differ with market returns. This confirms that systematic risk can also be explained by firm-specific variables (Ying & Cheng, 2007).

1.2 Aim and Importance of the Study:

Based on the importance of the issue mentioned above, this thesis aims to investigate systematic risk determinants of five important and large hotels with five stars plus Turkish Airlines in the case of Turkey. Turkey ranks 6th out of attracting international tourists as of 2011 (WTO, 2011); it is also cylical industry in this country. Since this study is the first of its kind to the best of our knowledge, results and major findings in this thesis are expected to be interest of stakeholders and other academics worldwide.

1.3 Structure of the Study:

This study has 6 chapters. Respectively, the introduction provides an overall glance at the tourism industry and systematic risk. The literature review encompasses past researches about systematic risk factors in tourism, while the following chapter, chapter 3, focus on the related body of knowledge about the past and present of Turkish tourism industry. Chapter 4 provides the data and methodology used in this research. Emprical analysis of the data is given in Chapter 5. Finally, Chapter 6 includes closing remarks about the overall study.

Chapter 2

THEORETICAL SETTING and LITERATURE REVIEW

2.1 Systematic Risk (Beta):

From the CAPM, the measure of the systematic risk is usually defined as "the beta of a stock" (Gu and Kim, 2002). The rate of return on that particular stock can be estimated as a sum of both risk-free rate and risk premium of that particular asset, yet the expected risk premium is directly proportionate with beta as an index of the risk. The mathematical expression for the CAPM can be expressed as:

$$Ri = Rfr + ßi\ (\ Rm - Rfr) \qquad (1)$$

Where: Ri represents the expected return on the asset, R*m* is the market return, R*fr* is the risk free rate (e.g. T bill rate) and ßi is the measure of the systematic risk. This model is overly simplistic and must abide by a set of assumptions in order to make sense (Logue and Merville, 1972). These assuptions are;

- A risk averse investor.
- The return speculation should be random and impartial with no bias.
- Investor may provide or borrow according to risk free rate.
- No transactional cost or any type of tax charges to be applied in this type of transactions.
- Every security is independent in other words is not dependent directly on another security or set of securities.
- Investor's expected utility should be higher with that transaction.

The beta of an asset may be identified as the slope of a regression line measuring the linear relationship between the market return and expected return on security.
The regression can be expressed mathematically as;

$$Ri = ßo + ßi\ Rm + \varepsilon_i \quad (2)$$

Where R*i* indicates return of the market security, R*m* is the market return and ε_i indicates the disturbances or an independently distributed random variable with zero mean and constant variance. We can obtain the beta as a ratio of the covariance between the market return and the security's retun to the variance of the market security;

$$ßi = Cov\ (Ri\ ,\ Rm)\ /\ Var\ (Rm) \quad (3)$$

Where, B*i* is systematic risk of *i*th security, R*i* return from *i*th security and R*m* is market return.

Finally, it was concluded by Logue and Merville (1972), that the predicted beta (which is the best linear unbiased estimator) of the true beta is a suitable representation of systematic risk because it depends encompasses all relevant fundamental information on which all companies have a common bearing.

2.2 Potential Determinants of Systematic Risk and Hypotheses from the Preview Literature:

Several financial variables like liquidity, debt leverage, operating efficiency, profitability, firm size and growth have been commonly used by reputable researchers to identify their impact on the systematic risk (beta).

Some studies which favored this choice of variables include Borde, 1998; Gu and Kim, 2002; Kim et al., 2002; Lev and Kunitzky, 1974; Logue and Merville, 1972. In this study, we will employ the above variables to develop hypotheses regarding the tourism industry in Turkey. Our major objective is to explore the relationship among financial variables and systematic risk.

It is, thus, of gross relevance to effectively comprehend the functioning and operations of the tourism industry in order to identify and measure the level of systematic risk inherent in this sector of the Turkish Economy. Lee and Jang (2006), found a negative correlation between profitability, growth, safety and systematic risk while the firm's size and debt leverage showed a positive relationship.

The significant association of debt leverage, profitability, growth, and safety to the systematic risk is consistent with previous empirical studies, but the positive association of the firm size with the risk is a controversial finding as opposed to the relevant finance theory and previous research.

An attempt to understanding the sources of systematic risk exposure for East Asia airline industry was done by Hooy and Lee (2010), using a panel regression of six prominent airline companies in the region. Their findings revealed that only size and operating efficiency are positive and significant related to systematic risk. Airline safety on the other hand is negative and significant and inversely associated with the systematic risk. A result contrary to that of Hooy and Lee (2010), is that of Ying and Cheng (2007), who used a multivariate regression to analyze the relationship between systematic risk and six financial variables. Their findings showed that operating efficiency and profitability were negatively associated with systematic risk.

This study therefore intended to tests the impact of six controllable firm-specific variables to systematic risk as a hypothesis.

- **Hypothesis 1- (Liquidity):**

  Jensen (1984), to find a relationship between liquidity and systematic risk, found a positive relationship between liquidity and systematic risk. High liquidity increases agency cost of a firm's free cash flows and raises it's systematic risk. (i.e, free cash flow hypothesis).

Inspite of that fact, that a multitude of investors use liquidity ratios when investmenting in order to forecast the current position of any firm, it is nonetheless worth noting that much of the studies in airline industries landed on the conclusion of a negative relationship between systematic risk and liquidity. Other researchers like Moyer and Charlfield (1983); and Gu and Kim (1998), found negative relationship between systematic risk (beta) and liquidity. Their proposition was that systematic risk declines as a firm becomes more liquid. A firm's liquidity can be computed as;

Quick Ratio = Current Asset – Inventory / Current liabilities (4)

- **Hypothesis 2- (Debt Leverage):**

Modigliani and Miller (1958), and Gu and Kim (2002), found a positive non-linear association between systematic risk and the degree of leverage of a firm. They found that if the debt/equity ratio of a firm is increased, the firm becomes more exposed to outside risk.

On another note, Lee and Jang (2006), argued that; "high leverage usually makes firm highly susceptible to financial risk". Meanwhile, Hong and Sarkar (2007), found the beta was an increasing function of leverage.

Others like Kim et al (2002), Lee and Jang (2006), Mnzava et al (2009), suggested a positive relationship between leverage and beta. Debt ratio is used to calculate the leverage.

Logue and Merville (1972), measured short term liabilities and long term liabilities separately because few firms use short term liabilities as a perpetual part of the capital structure. Olib et al (2008), used leverage in their study as control variable and found positive relationship between leverage and systematic risk.

Debt Ratio = Total Debt / Total assets (5)

- **Hypothesis 3- (Operating efficiency):**

When the firm enjoy more operating efficiency, it generates more profit, yet with more profit the systematic risk is reduced as per Gu and Kim, (2002). More often than not, most reputable scholars are inclines to support a negative relation between operating efficiency and beta. Nonetheless Gu and Kim (1998 and 2002), illustrated the exixtence of the possibility of high efficiency and low systematic risk. Eldomiaty et al (2009), in his research relating to nonfinancial sectors also found a negative relationship between systematic risk and operating efficiency. Operating efficiency can be measured by asset turnover ratio.

Asset Turn over = Total Revenue / Total assets. (6)

- **Hypothesis 4- (Profitability):**

Profitability is an important indication of the level of financial success of a business. Therefore, profitable firms possess a reduced succeptibility to faliure and hence low systematic risk according to Logue and Merville, (1972). This inference is in consistence with the findings of previous researchers like Scherrer and Mathison, (1996) and Rowe and Kim, (2010).

In some particular industries however, this relation is incoherent such as in Borde et al (1994), whose reasearch concluded a positive relationship between profitability and systematic risk in insurance companies in particular. A point worth recalling is that according to Borde, the more compelling issue driving most successful finance companies is their apetite for risky operations which mostly accrues higher future returns. For calculating the profitability, return on asset is used;

ROA = Net Income / Total (7)

- **Hypothesis 5- (Firm size):**

It is usually, a fundamental assumption that the larger the firm, the better it may manage its operations in a fashion so as to reduce risk. There are better also opportunities such as those of specialization, economies of scale and economics of scope not easily sourced by smaller firms. Large firms should be less exposed to systematic risk as a result of economies of scale as propagated by Olib et al, (2008). In the same light, Slliven (1978), mentioned that the systematic risk is lower in larger than in smaller firms due to their ability to better absorb shocks than smaller firms.

Portfolio diversification is more common with larger firms which provide reduced chances of insolvency and hence systematic risk (Titman and Wessels,1998).

In addition, large firms possess highly marketable and liquid assets which can be easily converted to cash, hence making them less risky (Fisher, 1959).

Considering the possibility of economies of scale, large firms can enjoy lower unit costs and thus the likelihood of profitability, reduced possibility of bankruptcy and low levels of risk are the added advantages of large firms (Ben-Zion and Shalit, 1975).

Finally, large firms are more capable of alleviating and absorb the influences of economic, social, and political changes on their management and therefore keep their businesses less risky (Sullivan, 1978). "In line with the reasoning behind such assertions, several empirical studies support the negative relationship of firm size to beta Ang et al, (1985); Breen and Lerner, (1973); Kim et al, (2002); Lev and Kunitzky, (1974); Logue and Merville, (1972); Patel and Olsen, (1984). Thus, this study posits the inverse relationship between beta and firm size, as measured by total assets.

- **Hypothesis 6- (Growth):**

  Both a positive and negative relationship has been found regarding growth and systematic risk. Since beta is a declining function growth, rapid growth might impact negatively on a firm by increasing its systematic risk (Hong and Sarkar, 2007). The compelling argument is that, most companies with high levels of growth usually have an intrinsic need for more resources to foster their financial expansion. (Gu and Kim, 2002).

  Roh, (2002) who found a positive relationship between growth and systematic risk argues that, annual growth rate in earnings before interest and taxes is essential in measuring the growth of any firm.

The cloud computing used, carrying out any files, data, software application from one place to another become unnecessary,because they are available on cloud, hence when the user transfer from one location to another s/he can use any of his/her application easily, also with cloud computing work group can connect to one application even if they are in different location by using security group of IPs address.

Chapter 3

TOURISM INDUSTRY IN TURKEY

Gradually, Turkey has become one of the most attractive tourism destinations of the world thanks to its hospitality culture, natural attractions, unique historical and archaeological sites, and improvements in touristic infrastructure. Bridging the two continents, Asia and Europe, Turkey, is a gateway to the East and the West, surrounded by the Black Sea on the north and the Mediterranean on the south. The Black Sea mountain ranging on the north and the Taurus Mountains on the south separates the coastal areas from the high Anatolian plateau. One can see various climatic differences in Turkey ranging from rainy climate of the Black Sea to subtropical Mediterranean on the south while from west to east climate shows considerable differences and contrasting climatic regions, with hot summers and mild winters in the Marmara and the Aegean region to the Eastern Anatolia with extremes of temperature where the winters are long with heavy snow fall. Turkey is the threshold of a mesmerising historical heritage of Hittites, Phrygians, Lycians, Lydians, Ionians, Romans, Byzantines to the Seljuks and Ottomans. One is very likely to come accross many historical assets of past civilizations scattered all around Turkey, (Tursab,2012).

3.1 Tourist Arrivals, Tourism Revenue and Bed Capacity in Turkey:

Tourism is one of the largest and fastest growing sectors in Turkey. Tourism industry in Turkey has made a significant progress over the last 20 years. Since mid 1980s both foreign arrivals and the tourist revenues have remarkably climbed, despite some fluctuations due to the clearly defined external factors beyond the sector' s control.

Successive records both in terms of number of arrivals and the tourism revenue have gradually developed. Considering the worldwide touristic arrivals published by UNWTO in 2011, behind the UK, Turkey outranks many countries in 2010 and ranks the 7th by 27 million. Whereas, the rank of Turkey become 6th by a 8.7 % rise , in 2011, outperforms the UK, and lures 29.3 million tourists.

Germany, the United Kingdom and the Russian Federation are the leading countries where Turkey lures approximately 36% of all international arrivals. Antalya and Istanbul are the most popular cities attracting approximately 60% of all arrivals. (The Travel & Tourism Competitiveness Report, World Economic Forum, 2009). The following graph exhibits the number of touristic arrivals per annum:

Figure 1. International Tourist Arrivals

Despite; the global economic slowdown, Turkish tourism sector is an important driver behind Turkey's economic development in the last 20 years.

Turkish tourism industry succeeded an obvious growth and record its best year ever in 2008, spit of, the minor fall in 2009 (Delotile,2010). International arrivals in Turkey rose by 3 % and reached a total of 27 million 77 thousand, breaking a new record. The outlook is robust and the tourism industry is expected to strenghten Turkey's future GDP growth by creating new job opportunities and improving the country's balance of payments (Tursab,2012).

Table 1. Development of Turkish Tourism by Years

Years	Incoming Tourists (*1000)	Tourism Income (Million US$)
1980-1983	5709	1488
1984-1987	9977	5288
1988-1991	19537	10270
1992-1995	27972	16876
1996-1999	35519	25028
2000-2003	49258	33884
2004-2007	81801	52597
2008*	21107	17457

Source: The Association of Turkish Travel Agencies www.tursab.org, *From January to September.

In 1983, 1,6 million tourists came to Turkey and Turkey obtained 411 million dollars revenues from tourism. In 2009, 32 million tourists visiting Turkey spent 21,2 billion dollars. In 2008, tourism revenues close the 31,3 per cent of the foreign trade deficit. In 2011, the receipts from tourism rose to 25 billion dollars The table exhibits that tourism revenues were 326,7 million dollar in 1980, it was over 21 billion dollar in 2009 (Ulusoy and İnançlı, 2011).

The ratio of tourism revenues to exports ones was 11,2 in 1980, it reached to 20,8 in 2009 (Republic of Turkey Ministry of Culture and Tourism Statistics, 2010).

The below graph indicates the tourism receipts by years, from 1963 to 2011:

Figure 2. International Tourism Receipts

In order to sustain and ensure prospective growth in touristic revenues, in addition to the current capacity of 567,470 beds, Turkish tourism industry has heavily invested in an additional capacity of 258,287 beds. The CAGR in bed capacity between 1998 and 2008 has been 6,1% (Ministry of Culture and Tourism, 2009).

Figure 3. Hotel Bed Capacity

Chapter 4

DATA AND METHODOLOGY

4.1 Data:

The data used in this thesis are quarterly figures covering the period 1997-2011 which makes 72 observations. The variables used in this thesis are beta (β), liquidity (LIQ), debt leverage (DL), operating efficiency (OE), profitability (PROF), firm size (FS), growth (GW) for tourism firms in Turkey (SI), Treasury bill of Turkey.

Financial data (1997-2011), for THY and five other large tourism firms which are Çesme Altınyunus Otel, Marmaris Altınyunus Otel, Martı Otel, Mememtur Tourism, Nettur Tourism, were obtained from online Data Stream program (Version 5.1).

The data for stock prices was gathered from Istanbul Stock Exchange (ISE, 2011) while Treasury bill rates are obtained from central bank of Turkey (CBT, 2012).

Table 2, shows sample details of tourism companies in Turkey:

Table 2. Details of the Sample Tourism Companies

No	Companies	Year of Establishment	Company Size in 2011 (Total Assets/Million)
1	Türk Hava Yolları	1933	16404947 US$
2	Çeşme Altınyunus Hotel	1973	111545 US$
3	Marmaris Altınyunus Hotel	1986	53648 US$
4	Marmaris Martı Hotel	1967	274054 US$
5	Mememtur Turizm	1985	24146 US$
6	Net Turizm	1975	542227 US$

Source: TURKSTAT,(2012).

The thesis focuses on impact of the systematic risk determinant of tourism industry in Turkey. These determinants are: liquidity, debt leverage, operating efficiency, profitability, firm size, and growth as a mentioned previously in this thesis.

4.2 Measures:

The estimated beta derived by regressing a firm`s quarterly stock return against the market return, a firm`s quarterly stock return is measured by the quarterly percentage change in ISE -100 indexes representing a proxy for market return. Linear regression analyses conducted quarterly beta for each company over 15-years period. Estimated beta is given as;

$$R_i = a + \beta R_m \quad (8)$$

R_i is the beta change of growth ISE-100, R_m the quarterly change of Treasury bill rates in percentage, β the estimated quarterly beta and a is the intercept.

To identify the relationship between six variables and the beta, the following multiple regression analysis was conducted using quarterly beta and financial factors for each firm over 15-years period.

$$Beta = a_0 + a_1 X_1 + a_2 X_2 + a_3 X_3 + a_4 X_4 + a_5 X_5 + a_6 X_6 + \varepsilon i \quad (9)$$

Where βeta is estimated systematic risk , a_0 is the intercept, X_1 the liquidity , X_2 the debt leverage , X_3 the operating efficiency , X_4 the profitability , X_5 the firms size , X_6 the growth. Table 3 provides the explanation of the 6 beta determinant candidates:

Table 3. Definitions of variables used in study

Variable	**Abbreviation**	**Measurement**
Liquidity	LIQ	Quick Ratio:(Cash+Marketable Securities+Accounts Receivable)/Current Liabilities
Debt Leverage	DL	Debt Ratio: Total Debts/Total Assets)
Operating Efficiency	OE	Asset Turnover Ratio:Total Revenue/Total Assets
Profitability	PROF	ROA:Net İncome/Total Assets
Firm Size	FS	Total Assets
Growth	GW	EBIT growth:Annual Percentage Change in EBIT

4.3 Panel Unit Root Tests:

To check whether the variables are stationary or not , in this thesis we opt to evaluate panel unit root test of the series (Gujarati, 2003). Also we assumed a stationary variables in our classical linear regression model, so that it is possible to maintain various and contemprorary economical approach.

Approaches including Levin, Lin and Chu (LLC) (2002), Breitung t-stat, Im, Pesaran and Shin (IPS) (2003), Augmented Dickey Fuller Maddala and Wu (1999), (ADF M-W), and Phillips Perron (PP) .

There are two different hypothesis which are null and alternative hypothesis in unit root tests. Our assumptions about null hypothesis is accepted leads to a result that the variables are non-stationary. On the other hand, in rejected case the variables can be stationary either at level or first difference and also second difference parts.

If series are stationary in different parts we can demonstrate them as following:

I(0)- Shows series are stationary at level part, that is integrated of order zero,

I(1)- If given series are not statioanry in level part but it is become stationary in first difference part, that is integrated of order one,

I(2)- If given series is stationary in second difference part which is integrated of order two.

Finally, it is clear that applying different combinaions of with/without trend and intercept options in unit root tests manipulated in autoreggresive model.

4.4 Impulse Responses and Variance Decomposition Analysis:

As a final step, impulse responses will be provided in order to investigate how beta coefficient of tourism firms react to the exogenous shocks in independent variables under consideration. Afterwards, variance decomposition for beta coefficient will be also provided, which will show how much of the forecast error variance of beta coefficient can be explained by given exogenous shocks to its regressors.

Chapter 5

EMPIRICAL RESULTS

5.1 Descriptive Analysis:

Table 4 shows the summary of descriptive statistics of beta and six variables for the 6 Turkish tourism industries for the 15-year period from 1997 to 2011. The mean measure of systematic risk for the sampled tourism companies is 1.035522 with a range of -0.724028 to 2.619440. The LIQ of the sampled companies range from 0.053634 to 7.285278 with a mean of 1.071246, and the DL varies from 0.000000 to 0.917130 with a mean of 0.241665. The OE of the sampled companies ranges from 0.016355 to 2.803470 with a mean of 0.491593. Average ROA as a profitability indicator is -0.000520.

The mean of FS is 986191.0 million ranging from 3533.000 million to 16404947 million with the standard deviation of 2718130. million, shows that the samples consist of different size of companies. The mean income GW rate is found to be negative (-1.164072), which manifests that the growth of Turkish tourism industry is perfect and the profitability of Turkish tourism sector is jumping down year by year.

Table 4. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std.Deviation
B	72	-0.724028	2.619440	1.035522	0.354955
LIQ	72	0.053634	7.285278	1.071246	1.324099
DL	72	0.000000	0.917130	0.241665	0.233922
OE	72	0.016355	2.803470	0.491593	0.606429
PROF	72	-0.401988	0.173845	-0.000520	0.098495
FS	72	3533.000	16404947	986191.0	2718130.
GW	72	-73.83607	13.70159	-1.164072	9.107948

Liquidity (quick ratio); debt leverage (debt ratio); operating efficiency (asset turnover ratio) ; profitability(ROA); firm size (total assets Million US$); growth (ebit growth,%).

Table 5. Panel Unit Root Tests

	Levels				
Variables	**LLC**	**Breitung t-stat**	**IPS**	**ADF M-W**	**PP**
(β)					
τ_T	-8.697*	-5.696*	-3.143*	46.420*	49.784*
τ_μ	-9.366*		-6.086*	58.658*	62.902*
τ	-10.051*			80.310*	79.623*
(DL)					
τ_T	-2.878*	-2.266**	-0.653	17.248	10.733
τ_μ	-3.226*		-0.984	18.625***	5.974
τ	-0.443			10.761	10.611
(GW)					
τ_T	-4.887*	-4.130*	-1.663**	27.208*	35.093*
τ_μ	-6.484*		-3.948*	39.356*	41.452*
τ	-7.860*			63.459*	60.645*
(LIQ)					
τ_T	-2.978*	1.277	-0.312	16.829	11.674
τ_μ	-4.207*		-2.251*	28.253*	27.839*
τ	-2.818*			25.594**	25.582**
(OE)					
τ_T	-2.405*	-0.104	0.384	9.850	9.636
τ_μ	-1.107		0.335	7.996	7.209
τ	-1.537***			15.623	17.085
(PROF)					
τ_T	-5.072*	-3.301*	-1.118	24.055**	28.858*
τ_μ	-3.393*		-1.989**	24.600**	29.191*
τ	-2.437*			48.944*	47.967*
(FS)					
τ_T	-0.800	4.759	0.754	10.007	12.604
τ_μ	3.213		4.255	2.487	2.719
τ	3.592			1.580	1.497

Table 6. Panel Unit Root Tests

		First Difference			
Variables	**LLC**	**Breitung t-stat**	**IPS**	**ADF M-W**	**PP**
(β)					
τ_T	-10.423*	-4.368*	-3.490*	53.126*	94.403*
τ_μ	-10.914*		-7.177*	67.611*	97.415*
τ	-13.776*			89.180*	101.348*
(DL)					
τ_T	-4.085*	-2.907*	-0.950**	21.569**	33.802*
τ_μ	-5.748*		-3.560*	36.775*	46.789*
τ	-7.521*			60.348*	62.714*
(GW)					
τ_T	-12.361*	-4.995*	-3.470*	50.313*	89.062*
τ_μ	-13.119*		-7.842*	71.216*	105.975*
τ	-13.278*			106.054*	120.650*
(LIQ)					
τ_T	-13.027*	-1.116**	-2.637*	34.696*	59.753*
τ_μ	-6.313*		-3.739*	40.927*	49.231*
τ	-8.130*			69.653*	67.933*
(OE)					
τ_T	-8.030*	-3.218*	-1.516***	29.835*	45.890*
τ_μ	-6.143*		-2.858*	32.374*	41.879*
τ	-7.756*			62.773*	63.141*
(PROF)					
τ_T	-11.999*	-4.179*	-3.590*	53.409*	64.259*
τ_μ	-10.746*		-6.390*	62.003*	79.944*
τ	-12.605*			98.222*	85.640*
(FS)					
τ_T	-4.287*	0.430	-0.408	16.247	25.057**
τ_μ	-3.108*		-1.208	22.319**	21.847**
τ	-2.254**			24.112**	24.895**

Note: τ_T represents the most general model with a intercept and trend; τ_μ is the model with a intercept and without trend; τ is the most restricted model without a intercept and trend. Optimum lag lengths are selected based on Schwartz Criterion. * denotes rejection of the null hypothesis at the 1% level. ** denotes rejection of the null hypothesis between the 1% level and 5 % level. *** denotes rejection of the null hypothesis between the 5 % level and 10 % level. Tests for unit roots have been carried out in E-VIEWS 6.0.

5.2 Unit Root Test for Stationary:

In this section, we are going to analyze the stationary nature of our variables using the results in Table 5 and 6. These tables show us the panel unit root tests for determinants of systematic risk.

- **Beta:**

  Table 5, present unit root test results in Turkey for different kinds of tourism industries in period of 1997-2011. Beta seems to be stationary in all test when intercept and trend are included. Also when trend is omitted, and if trend and intercept omitted we will reach the same result for beta in unit root test. That means the beta become stationary, this is because the null hypothesis of unit root can be rejected at alpha 0.01 for all tests in level section. Therefore when we check the first difference alternatives for beta in unit root test, Table 6 indicate same result to us. This means beta become stationary in all test due to rejection of null hypothesis at alpha 0.01.

- **Debt Leverage:**

  In a debt leverage section, when we check all the test with trend, without trend and without trend and intercept, we will see the debt leverage can become stationary and non-stationary in different tests.

  So, in LLC test the debt leverage become stationary in alpha 0.01 level. This is due to rejection of the null hypothesis when trend and intercept is included. Also we will reach the same result for debt leverage if we omit the trend.

  On the other hand, when trend and intercept is omitted the debt leverage will be non-stationary in unit root test and the null hypothesis will be accepted.

In a Breitung t-stat there is just one level which includes the trend and intercept, when we examine this test, the debt leverage should be stationary because of the rejection of null hypothesis at alpha 0.05 level.

In an IPS test, the debt leverage analysis should be with trend and intercept part and without trend part. These two indicated in a unit root, for debt leverage tests are stationary in a level with trend and intercept at alpha 0.05, which is rejection of null hypothesis. In other hand, it is also stationary in a level without trend at alpha 0.01 which again rejects null hypothesis.

Also if we compare the ADF and PP test for debt leverage, we will get the same result in all test for level section. All of them are stationary, but there is just one differences in ADF test in trend and intercept part which is stationary at alpha 0.05. However, others are stationary in ADF and PP stationary at alpha 0.01 level. So if we interpret this, the null hypothesis should be rejected.

First difference examination of different values gives us some changes observed in Table 6. In all test, the debt leverage is stationary this means the null hypothesis will be rejected. There are small diffrences between IPS and ADF tests, in a trend and intercept section; debt leverage are stationary at 0.05 alpha level but are stationary in 0.01 level for other sections.

- **Growth:**

  In a unit root test of panel data, there is also growth part which is one of the determinant of systematic risk. When we analysis all hypothesis of unit root in Table 5, it shows us in all test that growth is stationary and rejects null hpothesis.

  LLC, ADF and PP test are stationary in all sections which are trend and intercept, without trend and without trend and intercept in at level of alpha 0.01.

  Also in a Breitung t-stat and IPS tests the growth is stationary, but in IPS test for trend and intercept part, alpha level is 0.05, so this means rejecting null hypothesis in that level. When we check the Table 6 for growth section, in all test, the result again is stationary, this is because the null hypothesis rejected 0.01 alpha level in a first differences.

- **Liquidity:**

  Firstly; we will start to examine the Table 5 for liquidity in unit root for all hypothesis. So in LLC test the liquidity are stationary in all sections at 0.01 alpha level, while rejecting null hypothesis.

  For Breitung t-stat test, a trend and intercept section shows the liquidity is non-stationary with accepting null hypothesis. In IPS test; for trend and intercept part the liquidity is non-stationary but when we omit the trend, the liquidity is stationary in at 0.01 alpha level, because the null hypothesis is rejected. ADF and PP test give us the same result in all sections.

At the same time, in a trend and intercept section the liquidity is non-stationary. contrary of this, when we omit the trend, liquidity will become stationary at 0.01 alpha level because of the rejecting null hypothesis.

Finally, when we omitted trend and intercept the liquidity become stationary in a different alpha level which is at 0.05.

There is more information about liquidity in a unit root test for panel data in a first differences. When we examine the Table 6, you can analyse the liquidity part for different tests are stationary generally in 0.01 alpha level. However they are stationary in 0.05 level for Breitung t-stat in a trend and intercept section. So the interpretation of liquidity indicates rejecting null hypothesis.

- **Operating Efficiency:**

Operating efficiency for LLC test in a trend and intercept is stationary at 0.01 alpha level while rejecting null hypothesis. However when we omit the trend for the operating efficiency is non-stationary, this is because of the accepting null hypothesis. When trend and intercept are not included in LLC test the operating efficiency become stationary at 0.01 alpha level with rejection of null hypothesis. For all other tests which are included in unit root table, all other variables are non stationary so that will explain to us the acceptance of null hypothesis in a level section.

In addition to this, a first difference table which is Table 6 indicate all unit root tests for operating efficiency.

So, in all test operating efficiency are stationary while rejecting null hypothesis, but in a different alpha level. For LLC, Breitung t-stat, ADF, and PP, the alpha level is 0.05 but the IPS test alpha level is 0.01.

- **Profit:**

Panel unit root test for profit also examined in two table; one is Table 5 and the other one is Table 6. Therefore when we start with LLC test, in a trend and intercept part, the profit is stationary in 0.01 alpha level. Also when we omit the trend the profit become stationary in a same level of alpha and lastly when we omit the trend and intercept the profit become stationary in that part too, for same alpha level with rejecting null hypothesis.

The other test which is Breitung t-stat, explain the profit in trend and intercept section with 0.01 alpha level. This becomes stationary while rejecting null hypothesis.

IPS have another test for two section; in the first one, trend and intercept are included and in the second one just intercept is included for the test. So, the result for profit non-stationary in trend and intercept while accepting null hypothesis. Furthermore, this is stationary in intercept part at 0.05 alpha level.

ADF and PP also examine the profit for three steps. All of them are stationary but in a different alpha level; for ADF in the trend and intercept part and without trend part profit is stationary at 0.05 alpha level. But the others (without trend and intercept part) for PP is also stationary at 0.01 alpha level while rejecting null hypothes.

In a first difference table to explain profit more easier than the level table. Because in Table 6 all values stationary for all panel unit root test at 0.01 apha level so, the meaning of this is rejection of null hypothesis.

- **Firm Size:**

We use the panel unit root tests for determinants of systematic risk and the last one is the firm size. In a level section table which is the Table 5; for all test such as LLC, Breitung t-stat, IPS, ADF and PP to reach the same result what is the firm size is non-stationary. This means the model need to accept the null hypothesis for all test. In contrast, Table 6, which is first difference table shows us in LLC test different results. For trend and intercept part and without trend part the firm size stationary at 0.01 alpha level while rejecting null hypothesis. Therefore without trend and intercept for firm size is again stationary, but at a different alpha level at 0.05.

Bteitung t-stat and IPS tests shows to firm size is non-stationary which accepts null hypothesis. However, the ADF test give different result for firm size in three part of first difference, such as in a trend and intercept part which is non-stationary. But in other parts when we omit the trend and trend and intercept the firm size will become stationary at 0.05 alpha level. Because of the rejecting null hypothesis. PP test for firm size give the same result for three stages at 0.05 alpha level. Which is the firm size in PP test become stationary.

To summarize, all of our series under consideration seems to be stationary at their level forms without differencing.

Therefore, variables of this study are said to be integrated of order zero, I (0). Further detections in simple regression analyses then can be proceeded in this thesis.

5.3 Correlations Analysis:

Table 7, reports the Pearson correlations among firm-specific variables of the study. Evaluation of correlation coefficients is important in the sense that it gives us an idea about the possibility of multicollinearity problems and shows also strength and direction of linear association between variables.

Table 7. Pearson Correlations Among Variables

		B	GW	LIQ	DL	OE	PROF	FS
B	Pearson Correlation	1.00						
	Sig. (2-tailed)							
GW	Pearson Correlation	.912**	1.00					
	Sig. (2-tailed)	.000						
LIQ	Pearson Correlation	.077	.054	1.00				
	Sig. (2-tailed)	.525	.654					
DL	Pearson Correlation	-.046	.064	-.254*	1.00			
	Sig. (2-tailed)	.700	.591	.031				
OE	Pearson Correlation	.098	.092	.020	-.203	1.00		
	Sig. (2-tailed)	.418	.441	.869	.088			
PROF	Pearson Correlation	.035	.153	.249*	-.122	.010	1.00	
	Sig. (2-tailed)	.770	.200	.035	.307	.933		
FS	Pearson Correlation	.035	.045	-.064	.232*	.195	.153	1.00
	Sig. (2-tailed)	.775	.709	.591	.050	.101	.199	

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Correlation results in Table 7 shows that there isn't so much high correlation among regressors. In general, there are low correlations among explanatory variables in this study. This is the indication of absence of multicollinearity problem in a regression model to be estimated. Table 7 also shows that beta coefficient is highly and positively correlated with "growth" variable (0.912) which is alo statistically significant at 0.01 alpha level. However, correlation of beta coefficient with the other regressors are very low and not statistically significant; this happening may be an indication of insignificant regression coefficients in an estimation.

5.4 Regression Analysis:

Table 8. The effects of factors on risk in the Turkish tourism industry

Systematic Risk Test			
Independent Variables	Coefficient	t-value	Prob.
(Constant)	1.660449	3.510924	0.0009
LIQ	-0.016784	-0.573363	0.5686
DL	-0.112018	-0.508184	0.6132
PROF	-0.378119	-1.079814	0.2846
OE	-0.184143	-1.674468	0.0993
GW	-0.005901	-2.552282	0.0133
DUMMY	1.565343	7.241452	0.0000
N: 72			
R-Squared: 0.423789			
Adjusted R-Squared: 0.306593			
Model F statistic: 3.616086			

Table 8 gives regression results for the impact of risk determinants on beta risk of tourism companies. It is important to mention that Firm Size (FS) is eliminated form the model since it was not significant and also correlated to Debt Leverage (DL) in order to avoid multicollinearity problem.

The regression model which is Panel Least Squares Model for systematic risk is significant at the alpha level 0.05, (F-value: 3.616086) along with one significant variables (GW) with 0.423789 R-square.

Therefore, when GW level increases by 1 unit, the β will decreases by -0.005901 units. There is negative relationship between GW and β for Panel Least Squares model with adding dummy. Other variables (LIQ, DL, OE AND PROF,) are non-significant.

We see that mainly they are only growth and operating efficiency variables that exert statistically significant impact on beta risk of tourism firms in Turkey. Both variables have reducing impact on beta risk of tourism companies in Turkey.

5.5 Implse Response and Variance Decomposition Results:

This final section will evaluate reaction of beta coefficient to its determiants in the tourism industry via impulse responses and variance decomposition analyses. Figure 2 presents impulse respons functions for our variables. We see that reaction of beta to a given shock in DL, Growth, LIQ, OE, and PR are positive over time but highly inresponsive since Cholesky one standard deviation values of beta are very close to zero level over time. Response of beta to firm size (LogSize) is negative but highly inresponsive again. This can be summarized as the reality that changes those determinants mentioned above will lead very few or minor changes in beta risk of tourism firms in Turkey. These findings are compatible with correlation and regression results.

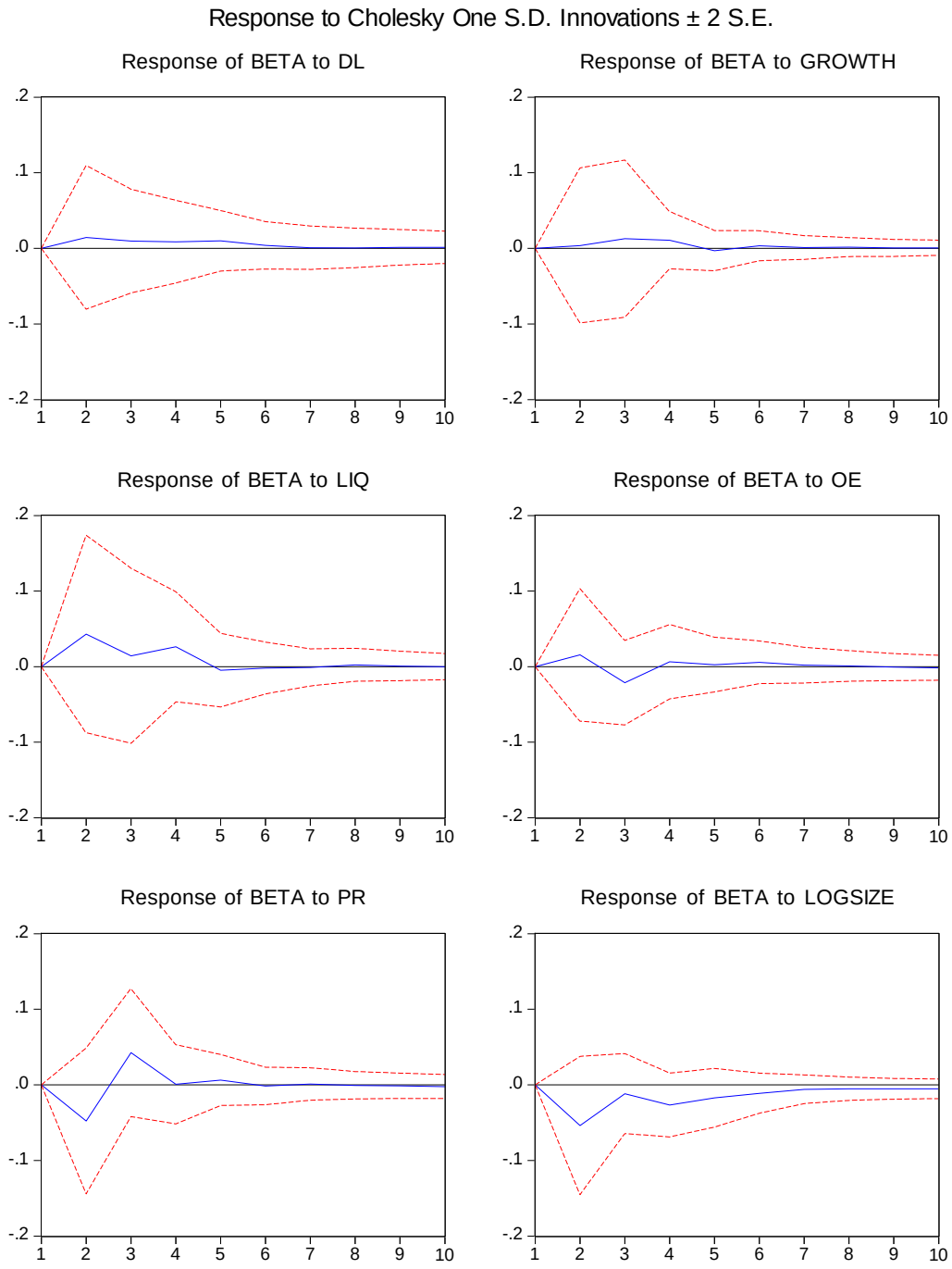

Figure 4. Impulse Response Functions

Table 9. Variance Decompositions

Period	S.E.	BETA	DL	GROWTH	LIQ	OE	PR	LOGSIZE
1	0.338925	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.350274	93.90873	0.168810	0.011174	1.506117	0.196362	1.853103	2.355702
3	0.354452	91.76975	0.237364	0.142325	1.633027	0.555833	3.252879	2.408818
4	0.356760	90.59214	0.293608	0.230885	2.149688	0.581409	3.211372	2.940896
5	0.357424	90.25690	0.370056	0.237720	2.159917	0.584564	3.231052	3.159794
6	0.357691	90.12343	0.381281	0.246951	2.159641	0.608827	3.228275	3.251593
7	0.357755	90.09370	0.381585	0.247563	2.159772	0.611434	3.228006	3.277943
8	0.357810	90.06806	0.381768	0.249520	2.163055	0.611816	3.227413	3.298372
9	0.357857	90.04547	0.382983	0.249660	2.162954	0.612103	3.227778	3.319052
10	0.357911	90.01868	0.384236	0.249880	2.162303	0.614049	3.230857	3.339998

Table 9 represents variance decomposition results between beta risk and its determinants. We see that ratio of variance in beta risk of tourism firms in Turkey by given shocks in its regressors are generally at low levels again. For example, at period 10, variance decomposition ratio of beta coefficient due to a shock in debt leverage (DL) is 0.38%, in Growth is 0.24%, in liquidity is 2.16%, and in operating efficiency is 0.61%, in profitability is 3.23%, and in firm size is 3.33%. Again results of variance decompositions are very similiar and supportive for correlation, regression, and impulse response results.

Chapter 6

CONCLUSION

6.1 Summary of Findings:

Aim of firms is to maximize their return for firms and also for their investors. Firms can be achieved to maximize result when high expected return play along with low risk. (Gu, 1993). This thesis shows any significant relationship between systematic risk and financial variables in Turkish's tourism industry. Six financial variables (Liquidity, debt leverage, operating efficiency, profitability, firm size and growth) found as the determinants of systematic risk. 15 years data of 6 non-financial companies (1997-2011) listed about Turkish tourism industry has been used for estimation.

In order to provide robust results after unit root tests throughout the study, several approaches have been employed which are correlation and regression analyses, impulse response functions, and variance decomposition analyses.

Correlation analysis has shown that low correlation is associated with debt leverage, growth, liquidity, operating efficiency, profitability, and firm size in the tourism industry of Turkey. This finding is highly similar in regression analysis.

Regression model has shown that they are only growth in stock prices and operating efficiency that exert negative and statistically significant influence on company beta coefficient. The coefficients of other determinants were not statistically significant.

Impulse response functions revealed that response of beta coefficient of tourism companies to given shocks in above mentioned determinants are positive but highly unresponsive except firm size variable (which is low but negative). Finally, variance decomposition results also support findings from correlations, regressions, and impulse responses. Low variance in beta is explained due to changes or shocks happening its determinants as modelled in this thesis.

Major finding of this thesis, therefore, is that systematic risk determinants of tourism companies in Turkey are mainly stock value performance and operating efficiency in particular. But, in general, systematic risk determinants precede changes in systematic risk as provide by beta coefficient at very low levels. This suggests that risk level of tourism firms in Turkey mainly affected by some other variables other than these variables offered by Lee and Jang (2007) that they have tested for US Airline Industry. Results in the case of Turkey did not provide strong support for the results in the case of US Airline Industry.

6.2 Policy Implications and Limitations of the Study:

Results of this thesis show that beta coefficients are effected from stock values, debt leverage, firm size, profitability, operating efficiency, and liquidity at very low levels in the case of tourism firms in Turkey. Therefore, new investigations are needed with this respect.

There is no doubt in this study, there are some limitations about size of sample which is small and there are repeated sampling problem. In order to obtain high validity in future studies are needed more value and variable for airlines and tourism companies. They can use more financial variables with increase sample size on different sectors for generalized answers.

It is also advised for future research; to work on different systematic risk determinants by international and domestic airlines or tourism firms with adding more details about financial, operating and marketing skills.

REFERENCES

Ben-Zion, U., & Shalit, S. S. (1975). Size, leverage, and dividend record as determinants of equity risk. The Journal of Finance, 30(4), 1015–1026.

Borde, S. F. (1998). Risk diversity across restaurants. Cornell Hotel Quarterly and Restaurant Administration Quarterly, 39(6), 64–69.

Borde, S. F., Chambliss, K., & Madura, J. (1994). Explaining variation in risk across insurance companies. Journal of Financial Services Research, 8(3), 177–191.

Breen, J., & Lerner, M. (1973). Corporate financial strategies and market measures of risk and return. The Journal of Finance, 28(2), 339–351.

Fisher, L. (1959). Determinants of risk premium on corporate bonds. Journal of Political Economy, 217–237.

Gu, Z. (1993). Debt use and profitability: Reality check for the restaurant industry. Journal of Foodservices Systems, 7, 135–147.

Gu, Z., & Kim, H. (1998). Casino firms' risk features and their beta determinants. Progress in Tourism and Hospitality Research, 4, 357-365.

Gujarati, D. N. (2003), Basic Econometrics, 4th edn (New York: McGraw-Hill International).

Hong, G. and Sarkar, S.(2007). Equity Systematic Risk (Beta) and Its Determinants. Contemporary Accounting Research, Vol. 24 No. 2, pp. 423-66.

Hooy & Lee (2010), The Determinants of Systematic Risk Exposures of Airline Industry in East Asia, World Applied Sciences Journal 10 (Special Issue of Tourism & Hospitality): 91-98.

Jensen, M. C. (1984). Agency costs of free cash flow, corporate finance, and takeovers. American Economic Reviews, 76, 323–329.

Jin-Soo Lee & Soo Cheong (Shawn) Jang,The systematic-risk determinants of the US airline industry, (2006) tourism management.

Kim, H., Gu, Z., & Mattila, A. S. (2002). Hotel real estate investment trusts' risk features and beta determinants. Journal of Hospitality & Tourism Research, 26(2), 138–154.

Lev, B., & Kunitzky, S. (1974). On the association between smoothing measures and the risk of common stocks. The Accounting Review, 49,259–270.

Lintner, J. (1965). Security prices, risk and maximal gains from diversification. Journal of Finance, 20(4), 587–615.

Logue, L., &Merville, J. (1972). Financial policy and market expectations. Financial Management, 1(3), 37–44.

Mao, C. (1976). Corporate financial decisions. Palo Alto, CA: Pavan. Melicher, R. W. (1974). Financial factors which influence beta variations within an homogeneous industry environment. The Journal of Financial and Quantitative Analysis, 9(2), 231–241.

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. American Economic Review, 48(3), 261–297.

Moyer, R. C., & Chatfield, R. (1983). Market power and systematic risk. Journal of Economics and Business, 35(1), 123–130.

Oh, C.-O. (2005), 'The Contribution of Tourism Development to Economic Growth in the Korean Economy', Tourism Management, 26, 39–44.

Olib O.K., Michello A.F., Thorne J., (2008). Systematic risk and International diversification: An empirical perspective. International review of financial analysis, Vol.17.pp.681-698.

Patel, R. C., & Olsen, R. A. (1984). Financial determinants of systematic risk in real estate investment trusts. Journal of Business Research, 12(4), 481–491.

Roehl, W. S., & Fesenmaier, D. R. (1992). Risk Perceptions and Pleasure Travel: An Exploratory Analysis. Journal of Travel Research, 30(4), 17.

Roh, Y. S. (2002). Size, growth rate and risk sharing as the determinants of propensity to franchise in chain restaurants. International Journal of Hospitality Management, 21(1), 43–56.

Rose, N. L. (1990). Profitability and product quality. Economic determinants of airline safety performance. Journal of Political Economy, 98(5), 944–964.

Rowe, T. and Kim .J (2010). Analyzing the relationship between systematic risk and financial variables in the casino industry. UNLV Gaming & Research Journal,Vol. 12 No. 2.

Scherrer, P. S., & Mathison, T. J. (1996). Investment strategies for REIT investors. Real Estate Review, 26(1), 5–10.

Sharpe, W. F. (1963). A simplified model of portfolio analysis. Management Science, 9(2), 425–442.

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. Journal of Finance, 19(3), 425–442.

Stancich, (2008), Climate Change Corp.com: Special report: tourist industry blind to high climate risk.

Sullivan, T. G. (1978). The cost of capital and market power of firms. Review of Economics and Statistics, 60, 209–217.

Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. The Journal of Finance, 43(1), 1–19.

Ulusoy&Inancli, (2011), The Effects of Tourism Sector on Turkish Economy,77. http://www.internationalresearchjournaloffinanceandeconomics.com

World Tourism Organization (UNWTO). 2008. Workshop on Tourism Statistics. http://www.sesrtcic.org/imgs/news/Image/REPORT_ANKARA_TURKEY_JUNE%202008.pdf

World Tourism Organization (UNWTO). 2009. World Tourism Barometer – June 2009. Accessed on July 15 at:
http://www.unwto.org/facts/eng/pdf/barometer/UNWTO_Barom09_2_en_excerpt.pdf

The Ministry of Culture and Tourism (TCKTB), (2010), http://www.kultur.gov.tr/, Accessed on January 10.

Turkish Statistical Institute, (TUIK), (2011), http://www.turkstat.gov.tr, Accessed on September 15.

The Association of Turkish Travel Agencies, (TÜRSAB), (2010), http://www.tursab.org.tr/, Accessed on January 10.

APPENDIX

Table 10: Descriptive Statistics

	BETA	DL	GROWTH	LIQ	OE	PR	SIZE
Mean	1.035522	0.241665	-1.164072	1.071246	0.491593	-0.000520	986191.0
Median	1.000930	0.140880	-0.140527	0.614355	0.282564	0.007360	91051.50
Maximum	2.619440	0.917130	13.70159	7.285278	2.803470	0.173845	16404947
Minimum	-0.724028	0.000000	-73.83607	0.053634	0.016355	-0.401988	3533.000
Std. Dev.	0.354955	0.233922	9.107948	1.324099	0.606429	0.098495	2718130.
Skewness	-0.313169	0.910362	-7.144082	2.530462	2.138280	-1.095896	3.829453
Kurtosis	15.55135	3.058644	58.01803	9.777986	7.285982	6.069140	18.65209
Jarque-Bera	473.7863	9.955432	9693.405	214.6621	109.9758	42.67073	910.9401
Probability	0.000000	0.006890	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	74.55756	17.39986	-83.81321	77.12970	35.39469	-0.037467	71005755
Sum Sq. Dev.	8.945485	3.885072	5889.785	124.4800	26.11072	0.688790	5.25E+14
Observations	72	72	72	72	72	72	72

Liquidity (quick ratio); debt leverage (debt ratio); operating efficiency (asset turnover ratio) ; profitability(ROA); firm size (total assets Million US$); growth (ebit growth,%).

Table 11: The effects of factors on risk in the Turkish tourism industry

Dependent Variable: BETA
Method: Panel Least Squares
Date: 01/29/13 Time: 17:24
Sample: 1997 2011
Periods included: 15
Cross-sections included: 6
Total panel (unbalanced) observations: 72
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.660449	0.472938	3.510924	0.0009
DL	-0.112018	0.220427	-0.508184	0.6132
GROWTH	-0.005901	0.002312	-2.552282	0.0133
LIQ	-0.016784	0.029273	-0.573363	0.5686
OE	-0.184143	0.109971	-1.674468	0.0993
PR	-0.378119	0.350170	-1.079814	0.2846
DUMMY	1.565343	0.216164	7.241452	0.0000
LOGSIZE	-0.043895	0.035260	-1.244877	0.2181

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.423789	Mean dependent var	1.035522
Adjusted R-squared	0.306593	S.D. dependent var	0.354955
S.E. of regression	0.295574	Akaike info criterion	0.562190
Sum squared resid	5.154487	Schwarz criterion	0.973254
Log likelihood	-7.238830	Hannan-Quinn criter.	0.725836
F-statistic	3.616086	Durbin-Watson stat	2.449125
Prob(F-statistic)	0.000451		