

# **Interactions between Business Conditions and Financial Performance of Tourism Industry in Turkey**

**Ceyda Özkan**

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 2012  
Gazimağusa, North Cyprus

Approval of the Institute of Graduate Studies and Research

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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.

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Assoc. Prof. Dr. Salih Katirciođlu  
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.

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Assoc. Prof. Dr. Salih Katirciođlu  
Supervisor

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Examining Committee

1. Assoc. Prof. Dr. Eralp Bektař

2. Assoc. Prof. Dr. Salih Katirciođlu

3. Assoc. Prof. Dr. Sami Fethi

## **ABSTRACT**

This thesis searches the empirical association between financial performance and business conditions in the tourism industry of Turkey, which has shown tremendous development in international tourism apart from 1980s. Business conditions are proxied by industrial value added and real income, while financial performance is proxied by value weighted stock price index of large tourism firms who trade in Istanbul Stock Exchange. Using a quarterly data from 1991:Q1 to 2011:Q2, results confirm the long term equilibrium relationship between financial performance of tourism firms and business conditions in Turkey. Stock prices converge to its long term equilibrium level by 20.45 percent at the end of every quarter by the contribution of business conditions. Finally, results of the present study suggest unidirectional long term causality that runs from business conditions to financial performance of tourism firms in Turkey, which means that any change in business conditions precedes a change in financial performance in the tourism industry of Turkey.

**Keywords:** Financial Performance; Business Conditions; Tourism Industry; Causality Analysis; Turkey.

## ÖZ

Bu çalışma Türkiye’de faaliyet göstermekte olan büyük turizm firmalarının finansal performansları ile iş çevreleri arasındaki ampirik ilişkiyi hedeflemektedir. Türkiye 1980’li yıllardan itibaren uluslararası turizm alanında çok büyük ilerlemeler kaydetmiştir. İş çevreleri faaliyetleri sanayi üretimi tarafından yaratılan katma değer ve reel gelir ile ölçülürken, turizm firmalarının finansal performansları, fiyat ağırlıklı ortalama yöntemi ile hisse senedi fiyat endeksi ile ölçülmüştür. 1991:Q1 ve 2011:Q2 arası veriler kullanılarak, bu çalışma, Türkiye’deki turizm sektörü’ndeki finansal performans ile iş çevreleri arasında uzun dönemli bir denge ilişkisi olduğunu ortaya koymuştur. Hisse senedi fiyat endeksi uzun dönem denge değerlerine 20.45% ile yaklaşmaktadır. Son olarak, iş çevrelerinde yaratılan faaliyetten turizm firmalarının finansal performanslarına doğru tek yönlü bir nedensellik tespit edilmiştir; yani, iş çevrelerinin yaratmış olduğu gelir (üretim) düzeyindeki bir değişiklik, Türkiye’de faaliyet göstermekte olan turizm firmalarının finansal performanslarında bir değişikliğe sebebiyet verecektir.

Anahtar Kelimeler: Finansal Performans; İş Çevreleri; Turizm Sanayii; Nedensellik Analizi; Türkiye.

## **ACKNOWLEDGMENTS**

I would like to thank my supervisor Assoc. Prof. Dr. Salih Katırcıođlu for his continuous guidance, support, opinion and encouragement in the preparation of this thesis.

I would like to express my special thanks to my family for their invaluable and continuous support throughout my studies and my life. I owe quite a lot to Selim Özkan, Nezihe Özkan and Berkay Özkan as they are the most important people in my life.

Furthermore, I would like to thank all of my friends for their endless support and encouragement in my life.

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## **LIST OF ABBREVIATIONS**

ADF test	Augmented Dickey-Fuller test
ARDL	Auto Regressive Distributed Lag
AIC	Akaike Information Criteria
AYCESS	Altinyunus Çeşme Hotel
BC	Business Conditions
ECM	Error Correction Model
ECT	Error Correction Term
FP	Financial Performance
GDP	Gross Domestic Product
IN	Industry
LR	Long Run
MAALT	Marmaris Altinyunus Hotel
MMART	Marmaris Martı Hotel
METUR	Metemtur Tourism
NTTUR	Netur Tourism
PP test	Phillips-Perron test
ROE	Return on Equity
ROA	Return on Asset
SI	Stock Price Index

SIC	Schwartz Information Criterion
WTO	World Trade Organization
VAR	Vector Auto Regressive model
VECM	Vector Error Correction Model

# Chapter 1

## INTRODUCTION

Nowadays, business conditions and financial performance are important issues, for the companies. Business conditions (BC) can be presented by some factors such as country politics, economics and regulations. BC has also an important role for the economy since both small and large firms are affected from these conditions. Since both small and large firms are affected from these conditions, changes in financial performance provide expansion or contraction in the economy (Bodie, Kane and Marcus, 2008). Government regulation which is one of factors of business conditions promotes economic growth and development for developing countries (Kirkpatrick et al., 2006). Effective government regulation builds the economic welfare for countries and this situation specially affects business firms positively. GDP (Gross Domestic Product) is also another factor to promote financial performance in economy because economic growth is defined as an increase in Real GDP (that is, GDP adjusted for inflation). Therefore, when GDP increases in the country, economic welfare of country improves as well.

Tourism is also a key sector which has vital importance in the world because tourism is a major economic area in the countries. According to data of World Tourism Organization, international tourism receipts have reached US\$ 919 billion

worldwide in 2010 ([www.unwto.org](http://www.unwto.org)). In addition to this, international of tourist arrivals have also reached 940 million in 2010 all around the world and expectation of WTO is to emerge of these numbers to the higher level ([www.unwto.org](http://www.unwto.org)). Tourism industry represents 5% of world GDP in the economy while it contributes to 6-7% of total employment ([www.unwto.org](http://www.unwto.org)). Therefore, tourism industry has significant role for growth in the world economy.

Business conditions and growth in tourism industry also have strong impact on financial performance of tourism firms (Chen et al., 2009). That is, development in tourism industry provides growth in the hotel sector by increasing occupancy rate and sales' revenues (Chen et al., 2009). Successful tourism industry contributes to the expansion in both domestic and international tourism markets which creates a demand for hotels and hospitality services and it's obviously leading to growth in hotel companies (Chen et al., 2009). Harvey (1991) states that if corporate earnings and dividends decreases, this will cause a decrease in the stock price of the company as well. Since BC usually affect corporate earnings and dividends and it's generally observed that stock prices are volatiled owing to the business conditions in the economy.

Business managers and policymakers deal with overall business conditions because a good business condition generally have positive economic impact on business firms (Jean et al., 2004). This positive economic impact in tourism industry leads an increase in sales and earnings which in turn the financial performance of business firms increases (Chen, 2005). Financial success of business firms lift business

conditions by generating job opportunities, business turnovers and taxes to the government (Joan et al., 2004). Therefore, there is an expected and positive relationship between the financial performance of business firms and the economy in general.

According to Balaguer and Cantavella (2002), tourists spending is an alternative form of exports and it contributes to the balance of payment through foreign exchange earnings. Since it ensures tourism expansion, it represents a significant income source for a national economy. Foreign exchange earnings from the tourism industry can also be used to import capital goods to produce goods and services which in turn leads to economic growth again (McKinnon, 1964). Other economic benefits of the tourism industry are tax revenues, employment and additional sources of income (Archer et al. (1995), Davis et al. (1988), Durbarry (2002), Khan et al. (1990), Uysal et al. (1994), West (1993)). It obviously seems that tourism expansion has a positive contribution to the economic growth.

Tourism industry has become a major economic activity within developing countries. Thea Sinclair (1998) states that the tourism industry contributes to have more foreign currency than traditional primary commodity exports. This positive contribution causes to have more provision of hard currencies which alleviate a foreign exchange gap and increase the gross national product and the provision of the tax revenues to the government (Thea Sinclair, 1998).

Based on the importance of the issue as suggested above, the aim of this thesis is to investigate the interaction between the economy, business conditions and financial performance of large tourism firms in Turkey.

## **Chapter 2**

### **Literature Review**

Compared to the other works searching the relationship between business conditions, the economy and financial performance of tourism firms are not so popular in the existing Literature. This section will briefly review existing studies till the date. It is important to note that there are very rare studies in this field which were pioneered by Professor Chen (2005; 2006; 2007; 2009; 2010).

Chen (2007) investigates interactions between BC and FP of tourism firms in China and Taiwan and finds LR equilibrium relationship between these variables. Furthermore, Chen (2007) also finds that BC and FP in the tourism firms of China and Taiwan reinforce each other.

Chen et al. (2006) argue that there is causal relationship between tourism expansion and economic growth in Taiwan. In addition, Chen et al. (2006) also investigate that bi-directional causality between these variables.

Chen and Kim (2006) argue that tourism expansion have direct impact on tourism firms' earnings than their stock performance and they also support that tourism



expansion could improve the corporate earnings of tourism firms by increasing corporate earnings.

Chen (2009) uses indicators of corporate performance are return on assets (ROA), return on equity (ROE), stock return to investigate impact of economy and tourism growth on tourism industry in Taiwan. Chen (2009) also finds that change in GDP and change in tourism arrivals have a significant factor on stock performance of tourism firms in Taiwan.

Tang and Jang (2009) find long-run relationship between four tourism related industries (airlines, casinos, hotels, and restaurants) and GDP in US. This relationship provides an alternative industry cycle forecasting method (Tang et al., 2009). Several studies have focused on forecasting industry performance of the tourism related industries such as restaurant industry, the hotel industry and airline industry ((Choi, 1999), (Choi, 2003), (Wheaton et al., 1998), (Guzhva et al., 2004)).

According to Chen (2010), development of tourism industry have directly effect on hotels and it can affect tourism industry via its ability to provide state of economy and make more strength the corporate performance of tourism firms. Empirical studies show that tourism expansion can improve business conditions ((Balaguer et al., 2002), (Dritsakis, 2004), (Gündüz et al., 2005), (Kim et al., 2006)).

Balaguer and Cantavella (2002) study tourism-led growth hypothesis and the results of hypothesis show that tourism expansion has significant effect in development of Spanish economy. According to empirical results, there is long term relationship between tourism receipts and gross domestic product and tourism expansion can cause economic development (Balaguer et al., 2002).

Dritsakis (2004) examines that tourism industry is a long term economic growth factor in Greece. Dritsakis (2004) also finds that there is a bi-directional causality between growth in GDP and tourism receipts and they promote each other.

Gündüz and Hatemi-J (2005) states that many developing countries like Turkey gave priority to tourism industry as part of its economic growth strategy. Gündüz et al., (2005) also test tourism-led growth hypothesis and according to results, tourism expansion has contribution to Turkey's economic growth.

Expenditure of international tourists have positive impact on economic growth of African countries (Fayissa et al., 2008). Tourism industry also contributes the improvement of the standard of living in four Southern European countries (Greece, Italy, Portugal and Spain) (Proenca et al., 2008).

Barrows and Naka (1994) investigate whether five selected economic variables (the expected inflation rate, money supply, domestic consumption, interest rate and industrial product) determine the return of US stock prices of tourism firms.

Chen et al., (2005) study the impact of economic variables and non-economic events on hotel stock returns in Taiwan. They also find that there are two influential economic factors which are money supply growth rate and changes in unemployment rate affect Taiwanese hotels stock returns (Chen et al., 2005). Furthermore, not only economic factors but also non-economic events like wars, presidential elections, natural disasters, terrorist attacks could have important effect on hotel stock returns in China (Chen 2007).

## **Chapter 3**

### **TOURISM INDUSTRY IN TURKEY**

Turkey is located in the intersection of Western Asia and Southeastern Europe. Since it has a significant geopolitical position, Turkey has economic and military force as regional power. It was established as a republic in 1923. Turkey integrated with membership organizations such as Council of Europe, NATO, OECD, OSCE and G-20 major economies. Turkey began full membership negotiations with EU in 2005. Turkey expanded its borders for foreign trade and investment by reducing government intervention. Furthermore, Turkish economy is developing in banking sector, electronics, textiles, construction, automotive and machine industry. GDP of Turkey \$1.116 trillion, GDP Per Capita is \$10,106 and inflation was decreased to 6.4% in 2010 ([www.turkstat.gov.tr](http://www.turkstat.gov.tr), 2011).

Turkey placed 10<sup>th</sup> for tourism revenues in 2010 among all countries. In terms of tourist arrivals, Turkey is 7<sup>th</sup> in the world. Antalya plays an important place in tourism industry in Turkey and Antalya was chosen fourth most attractive city in the world in 2010 because beautiful beaches, scenic bays, appropriate seawater temperature in winter increase the tourism potential in Antalya. It has also Blue Flag

awarded beaches. This award was given in 1987 by European Foundation for Environmental Education (Ministry of Culture and Tourism, 2011). The aim of this foundation is to conduct of sea and lake waters clean, the layout of the coasts and to increase quality of services.

Table 1. Tourism Earnings and Tourist Arrivals, 1960-2010

Years	1960	1970	1980	1990
Tourist Arrivals	94,000	724,000	1 million	5.3 million
Tourism Revenues	\$4.8 million	\$ 52 million	\$ 326 million	\$ 3.2 billion

*Source: As taken from Culture and Tourism Ministry (2011).*

In 1960s tourist arrivals to Turkey was 94,000 and tourism revenues were very low. After 1990 tourist arrivals to Turkey started to increase from 5.3 million to 10.4 million people. In 2005, tourism revenues are continued to increase to \$ 8.1 billion. Last year as 2010, 28.6 million people visited to Turkey. Tourism income was very high \$20.8 billion.

Table 2.Periodical Tourism Income and Expenditure, 2010-2011

Year / Term	Tourism income	Number of departing visitors	Average expenses per capita	Tourism expenditure	Number of citizens resident abroad	Average expenses per capita
	Trillion (\$)	(Million)	(\$)	Trillion (\$)	(Million)	(\$)
2010						
I. Term	2.413	3.752	643	0.989	1.294	765
II. Term	4.558	8.373	544	1.169	1.712	683
III. Term	8.574	1.386	619	1.305	1.837	711
IV. Term	5.259	7.040	747	1.360	1.713	794
Annually	2.080	3.302	630	4.825	6.557	736
2011						
I. Term	3.100	4.398	705	1.196	1.646	727
II. Term	5.372	9.338	575	1.325	1.885	703
III. Term	9.339	1.499	623	1.044	1.465	713
July	3.096	4.967	623	4.076	5.695	716
August	3.198	5.139	622	3.218	4.670	689
September	3.044	4.884	623	3.154	4.289	735

Source: As taken from TURKSTAT (2011).

There was a large amount of increase observed in tourism sector in 2010 and 2011. Tourism income is the highest amount in the 3<sup>rd</sup> terms of 2010 and 2011 since third term is including summer period (June, July August). There is a big demand to hotels in summer period. Therefore, the amount of tourist is the highest in 3<sup>rd</sup> period in

2010. In 2011, tourism income and amount of tourist are increased but expenditures of tourism are decreased to \$1,044, 887,999.

Foreign tourists are mostly coming from Russia, Ukraine, Germany, United Kingdom, and Romania, Bulgaria, Poland.

### Tourist Arrivals in Turkey by Nationality - Top 5

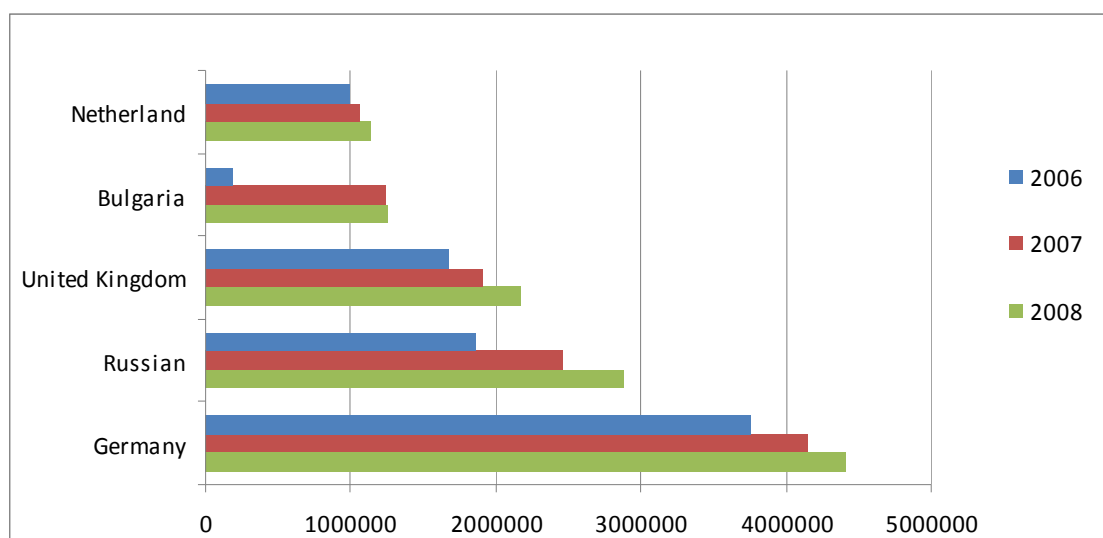


Figure 1: Tourist Arrivals by Nationality - Top 5

Source: As taken from ([www.invest.gov.tr](http://www.invest.gov.tr)), 2010.

Germany, Russian and United Kingdom are the top three countries in terms of the number of visitors in 2006, 2007 and 2008. The fourth most popular tourist country is Bulgaria. In 2007, the amount of tourists from Netherland and Bulgaria are almost same. But in 2006, in Netherland, the number of tourists was more than Bulgaria.

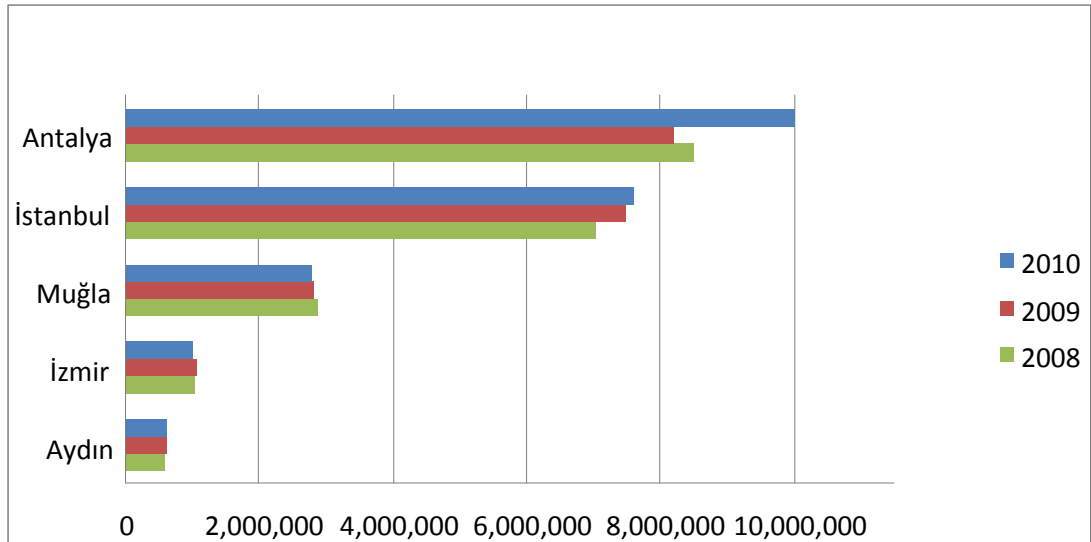


Figure 2: the 5 Most Popular Cities by Tourists in Turkey

Source: As taken from ([www.invest.gov.tr](http://www.invest.gov.tr)), 2010.

Antalya is the capital of tourism industry in Turkey. Especially in recent years, foreign tourists are flocked to Turkey because most of the hotels with high quality and five stars placed in Antalya. In 2008, tourism arrivals were higher than year of 2009. Tourist arrivals started to decline in 2009 because of global financial crisis. İstanbul is the most crowded city in Turkey and it was capital of European culture in 2010. Therefore, tourist arrivals improved in 2010. After İstanbul and Antalya, Muğla is most demanding city for foreign tourists since it has the longest seacoast which is 1124 in the country. There are 8 marine customs (Bodrum, Marmaris, Fethiye, Datça, Güllük, Turgutreis, Yalıkavak, Bozburun) ([www.muğlayanigun.com](http://www.muğlayanigun.com)).



Altinyunus Çeşme Hotel, Marmaris Altinyunus Hotel and Marmaris Martı Hotel are most demanding hotels in stock prices sector. Altinyunus Çeşme Hotel was established in 1974 by Yaşar Holding ([www.altinyunus.com.tr](http://www.altinyunus.com.tr), 2011). Altinyunus is the pioneer of Turkish tourism for many years and it contributed to the development of tourism. It had also important responsibilities in international organizations. Marmaris Altinyunus also was established in 1986 in addition to the Altinyunus Çeşme Hotel. Furthermore, Marmaris Martı Hotel was built in 1969. Martı Hotel Management has also 2 more resort hotels which are La Perla and Martı Myra ([www.marti.com.tr](http://www.marti.com.tr), 2011). Martı Hotel Management Inc. opened first public company in Turkish tourism sector. Currently, one third of company's shares are traded in Istanbul Stock Exchange.

## Chapter 4

### THEORETICAL SETTING

This thesis focuses on estimating the impact of business and economic conditions on the financial performance of large tourism firms who trade in Istanbul Stock Exchange of Turkey. Therefore, this chapter will introduce theoretical setting to be employed in the empirical part of the thesis. Financial performance is proxied by stock price index of tourism firms, business conditions by industrial production, and the economy by real gross domestic product (GDP) as also suggested by Chen (2007). With this respect, the following statistical interaction will be used in this thesis as parallel to the work of Chen (2007):

$$SI_t = f(IN_t, GDP_t) \quad (1)$$

where stock price index (SI) is a function of business conditions (IN) and the economy as a whole (GDP). It is expected that business conditions as proxied by industrial production and the economy as a whole as proxied by real income (GDP) will have a long term impact on stock price movements of tourism companies.

The model in equation (1) should be expressed in logarithmic form in order to estimate the growth effects (Katircioglu, 2010):

$$\ln SI_t = \beta_0 + \beta_1 \ln IN_t + \beta_2 \ln GDP_t + \varepsilon_t \quad (2)$$

where  $\ln SI$  is the natural logarithm of stock price index at period  $t$ ;  $\ln IN$  is the natural logarithm of the industrial production;  $\ln GDP$  is the natural logarithm of real GDP; and  $\varepsilon$  is the error term of this long term growth model. The expected sign of coefficients for  $\ln IN$  and  $\ln GDP$  is positive in equation (2) implying that growth in industrial production, real income exerts positive impacts on stock prices.

As Katircioglu (2010) mentions dependent variable in equation (2) ( $\ln SI$ ) might not adjust to its long term equilibrium value by the contribution of any of its regressors. Therefore, the speed of convergence for  $\ln SI$  can be obtained by estimating the below mentioned error correction equation:

$$\Delta \ln SI_t = \beta_0 + \sum_{i=1}^n \beta_1 \Delta \ln SI_{t-j} + \sum_{i=0}^n \beta_2 \Delta \ln IN_{t-j} + \sum_{i=0}^n \beta_3 \Delta \ln GDP_{t-j} + \beta_4 \varepsilon_{t-1} + u_t \quad (3)$$

where  $\Delta$  stands for a change in  $\ln SI$ ,  $\ln IN$ , and  $\ln GDP$  and  $\varepsilon_{t-1}$  is the coefficient of error correction (ECT) to be estimated in equation (2). The ECT from equation (3) suggest how fast  $\ln IN$  is approaching to its long run level. And finally by expectation the coefficient of ECT should be negative (Katircioglu, 2010).

## Chapter 5

### DATA AND METHODOLOGY

#### 5.1 Data

The data used in this thesis are quarterly figures covering the period 1991:Q1 – 2011:Q2 which makes 82 observations. The variables used in the thesis are stock price index for tourism firms in Turkey (SI), industrial production of Turkey (IN), and real gross domestic product (GDP). The data for stock prices was gathered from Istanbul Stock Exchange (ISE, 2011) while IN and GDP were obtained from TURKSTAT (2011). GDP and IN are at 1998 constant Turkish Lira prices.

The thesis focuses on the impact of the economy and business conditions on stock price movements in the tourism industry of Turkey as mentioned before. In parallel to the suggestion of Chen (2007), the economy and business conditions have been proxied respectively by real GDP and real industrial production. It is clear that it is business environment which contributes substantially to industrial value added of the countries. On the other hand, as this thesis focusses on stock price movements, stock prices of five major tourism firms trading in ISE of Turkey have been selected based on the data availability; these firms are Ceşme Altinyunus Hotel, Marmaris Altinyunus Hotel, Marmaris Marti Hotel, Metemtur Tourism, and Netur Tourism companies. Furthermore, in parallel to the work of Chen (2007), the value weighted

tourism stock price index (SI) of those large five tourism companies have been constructed in this thesis in order to proxy for financial performance. Therefore, this thesis will mainly focus on the impact of the economy and business conditions on the financial performance of the tourism and hospitality industry in Turkey.

## **5.2 Unit Root Tests for Stationarity**

Prior to estimating the model proposed in equation (2) of this thesis, econometric methodology suggest that variables are stationary. This means that they are integrated of order zero and have fixed mean, variance and covariance (See Gujarati, 2003). On the other hand, if variables are not stationary, then estimating regression models such as in equation (1) are not assumed to be robust. May be those variables will be stationary at their first difference (integrated of order one) or at their second difference (integrated of order two). In order to determine the stationary nature of variables in this thesis, unit root tests will be employed as suggested by the econometric literature (Gujarati, 2003).

The ADF (Augmented Dickey-Fuller) and PP (Phillips-Perron) tests for unit roots have been employed to test the stationarity nature of the variables under consideration (Phillips and Perron 1988; Dickey and Fuller 1981). The PP tests compute residual variance and is robust to auto-correlation problem, and also are superior to the ADF tests of unit roots with this respect (Katircioglu, 2010). As also suggested by Enders (1995), all the tests for unit roots in the case of the ADF and PP approaches have been carried out starting from the most general model (including trend and intercept) towards the most restricted model (without trend and without

intercept). This way allows us to see if including trend and intercept factors will differ for the stationary nature of the variables.

### **5.3 The ARDL Approach for Long-run Relationship**

Econometric estimation is a long run phenomenon. All the econometric procedures are carried out to see if variables are in long run relationship and if they do have a long run impact on another. Furthermore, when the series (variables) are stationary at their level form without differencing, they are assumed to be in a natural long run relationship; but, if they are not stationary at their levels but become stationary at their first or second differences, then their long run properties are assumed to be eliminated and become short term variables or properties anymore. However, there is still a possibility that they may be in a long term relationship. Therefore, further tests are needed to test for long run relationship among the variables. There are different approaches in testing for long run relationship. According to Engel and Granger (1987) and Johansen (1990) and Johansen and Juselius (1991) cointegration tests, for example, in order to test for long run relationship, variables need to be integrated of the same order. Having mixed order of integration does not allow for further steps in the long term period. Estimations can be done only for the short term period (See Katircioglu, 2009).

On the other hand, Pesaran et al. (2001) have developed an alternative approach to Engel and Granger (1987) and Johansen (1990) and Johansen and Juselius (1991) type cointegration tests to test for long run relationship between the variables. The main feature of bounds test to long run relationships as suggested by Pesaran et al. (2001) is that it allows mixed order of integration in the case of regressors but not in

the case of dependent variable. This means that dependent variable in bounds tests should be definitely integrated of order one, which is the highest rank of integration for both dependent and independent variables as suggested by Pesaran et al. (2001). Therefore, in order to test for the long term relationship between stock prices of tourism firms, business conditions, and the economy in Turkey, the bounds test using ARDL (the autoregressive distributed lag) approach is used in this thesis. This approach, which was developed by Pesaran et al. (2001), can be applied irrespective of the order of integration of the independent variables (irrespective of whether they are purely ordered zero, I (0), purely ordered one, I (1), or mutually co-integrated). The ARDL mechanism involves the following error correction model for estimating long term relationship:

$$\Delta \ln SI_t = a_0 + \sum_{i=1}^n b_{iy} \Delta \ln SI_{t-i} + \sum_{i=0}^n c_{iy} \Delta \ln IN_{t-i} + \sum_{i=0}^n d_{iy} \Delta \ln GDP_{t-i} + \sigma_{1y} \ln SI_{t-1} + \sigma_{2y} \ln IN_{t-1} + \sigma_{3y} \ln GDP_{t-1} + \varepsilon_{1t} \quad (4)$$

In equation (4),  $\Delta$  is the difference operator,  $\ln SI_t$  is the natural logarithm of dependent variable, Stock Price Index,  $\ln IN_t$  and  $\ln GDP_t$  are the natural logarithms of independent variables of Industrial Production and GDP, and  $\varepsilon_{1t}$  is error term of the model.

The *F-test* will be employed to search for a long run association between stock price index and its determinants in equation (4). In equation (4), when  $\ln SI$  is dependent,



the null hypothesis of no long term relationship is  $H_0: \sigma_{1Y} = \sigma_{2Y} = \sigma_{3Y} = 0$  and the alternative hypothesis of having long term relationship is  $H_1: \sigma_{1Y} \neq \sigma_{2Y} \neq \sigma_{3Y} \neq 0$ . Pesaran et al. (2001) have proposed five different scenarios in order to estimate equation (4). In this thesis, scenarios III, IV, and V will be employed in F-tests in parallel to the works of Katircioglu (2010) and Katircioglu (2009).

## 5.4 Level Equation and Error Correction Model

When there is a long run relationship in equation (4), the ECM which employs the ARDL approach will be estimated for equations (2). Prior to estimating this ECM, level equations for long term elasticity coefficients in equation (2) will be also estimated. This can be done once long run relationship is confirmed for equation (2). So, the error correction model for equation (2) under the ARDL approach can be suggested as:

$$\Delta \ln SI_t = \Delta \beta_0 + \sum_{j=1}^{p-1} \phi_j \Delta \ln SI_{t-i} + \sum_{i=1}^k \beta_{i0} \Delta \ln X_{it} + \sum_{i=1}^k \sum_{j=1}^{q-1} \beta_{ij} \Delta X_{i,t-j} + \varphi \Delta Z_t + \gamma(1, p) ECT_{t-1} + u_t \quad (5)$$

where  $\phi_j$ ,  $\beta_{ij}$ , and  $\varphi$  are the coefficients for the short-run period. The coefficient of  $\gamma(1, p)$  shows error correction term which is expected to be negative. Finally, X variable in equation (5) stands for independent variables, lnIN and lnGDP in this thesis.

## 5.5 Granger Causality Tests

Granger causality tests were suggested by Granger (1969) as a first time in order to estimate which variable stimulates a change in another. Then, it was developed by many researchers in the field. It is important to note that in contemporary econometrics, Granger causality tests should be carried out using error correction mechanism once long run relationship is confirmed between dependent variable and its regressors (See Enders, 1995). So, error correction models for Granger causality in this thesis can be suggested as following:

$$\Delta \ln SI_t = \alpha_0 + \varphi_{11}^p(L)\Delta \ln SI_t + \varphi_{12}^q(L)\Delta \ln IN_t + \varphi_{13}^r(L)\Delta \ln GDP_t + \delta ECT_{t-1} + u_{1t} \quad (6)$$

Where

$$\varphi_{11}^p(L) = \sum_{i=1}^{P_1} \varphi_{11,i}^p L^i \quad \varphi_{12}^q(L) = \sum_{i=0}^{P_2} \varphi_{12,i}^q L^i \quad \varphi_{13}^r(L) = \sum_{i=0}^{P_3} \varphi_{13,i}^r L^i$$

In equation (7),  $\Delta$  shows the difference operator and L stands for the lagged coefficients where  $(L)\Delta \ln Y_t = \Delta \ln Y_{t-1}$ .  $ECT_{t-1}$  is also the lagged error correction term obtained from the long-run equilibrium model. At the end,  $\mu_{1t}$  is random error of the model. According to the error correction model for Granger causality analysis, significant *t ratios* for  $ECT_{t-1}$  in equation (7) would be sufficient condition to confirm long-run causations and significant F ratios for short term causations (Katircioglu, 2010).

## **Chapter 6**

### **DATA ANALYSIS AND EMPIRICAL RESULTS**

#### **6.1 Unit root Tests for Stationary**

The variables of this thesis were employed in ADF and PP unit root tests to see if they are stationary at level or not. Table 4 shows that stock prices of NTTUR and industry seem to be stationary at their level since test statistics are statistically significant and the null of non-stationary can be rejected. But the other variables are non-stationary at their level but become stationary at their first differences. To conclude, NTTUR and INDUSTRY are said to be integrated of order zero,  $I(0)$ , while the others are integrated of order one,  $I(1)$ .

#### **6.2 Bounds Test for Long Run Relationship**

Findings in this thesis have provided mixed results for unit root tests. Therefore, the classical Engel and Granger (1987) and Johansen (1990) and Johansen and Juselius (1991) cointegration tests cannot be adopted in this case. This is because they need all the variables to be at the same integration level ( $I(1)$  or  $I(2)$ ). Therefore, bounds test for investigating long run relationship as suggested by Pesaran et al. (2001) will

be implemented in the present thesis. Table 5 gives critical values for bounds tests from Pesaron et al. (2001). Table 5, on the other hand, gives the results of bounds test where stock price index of large tourism companies trading in Istanbul Stock Exchange is dependent variable.

Table 3. Unit Root Analyses via ADF and PP Approaches

Statistics (Level)	ln Aycess	Lag	ln Mmart	Lag	ln Maalt	Lag	ln Nttur	Lag	ln Metur	Lag	ln Gdp	Lag	ln Industry	Lag	ln Stock	Lag
$\tau_T$ (ADF)	-2.49	(0)	-1.78	(0)	-2.26	(0)	-1.90	(0)	-2.55	(0)	-2.78	(8)	-4.11*	(4)	-2.49	(0)
$\tau_\mu$ (ADF)	-1.80	(0)	-1.78	(0)	-2.12	(0)	-1.94	(0)	-2.52	(0)	-0.00	(8)	-0.58	(4)	-2.06	(0)
$\tau$ (ADF)	-2.55	(0)	-2.52	(0)	-2.16	(0)	-2.50**	(0)	-1.86	(0)	2.12	(8)	2.13	(4)	-2.23	(0)
$\tau_T$ (PP)	-2.15	(5)	-1.40	(7)	-2.07	(7)	-1.81	(2)	-2.54	(4)	-1.81	(44)	-4.18*	(4)	-2.20	(8)
$\tau_\mu$ (PP)	-2.44	(12)	-2.07	(13)	-2.36	(9)	-1.95	(4)	-2.41	(5)	-2.69	(25)	-2.15	(18)	-2.50	(12)
$\tau$ (PP)	-2.88	(6)	-3.33	(12)	-2.15	(4)	-2.62*	(4)	-1.86	(4)	1.74	(13)	2.63	(13)	-2.28	(6)

Statistics (First Difference)	$\Delta$ ln Aycess	Lag	$\Delta$ ln Martı	lag	$\Delta$ ln Maalt	lag	$\Delta$ ln Nttur	lag	$\Delta$ ln Metur	lag	$\Delta$ ln Gdp	lag	$\Delta$ ln Industry	Lag	$\Delta$ ln Stock	Lag
$\tau_T$ (ADF)	-10.67*	(0)	-10.09*	(0)	-7.64*	(0)	-9.68*	(0)	-5.22*	(0)	-5.91*	(7)	-4.35*	(3)	-7.43*	(1)
$\tau_\mu$ (ADF)	-10.46*	(0)	-9.87*	(0)	-7.51*	(0)	-9.58*	(0)	-5.21*	(0)	-4.76*	(7)	-4.39*	(3)	-7.25*	(1)
$\tau$ (ADF)	-9.70*	(0)	-9.45*	(0)	-7.20*	(0)	-9.34*	(0)	-5.18*	(0)	-4.74*	(7)	-3.74**	(3)	-7.30*	(0)
$\tau_T$ (PP)	-11.96*	(8)	-13.36*	(14)	-7.88*	(1)	-9.74*	(4)	-5.22*	(1)	-16.00	(7)	-27.5*	(14)	-8.89*	(16)
$\tau_\mu$ (PP)	-10.92*	(5)	-10.28*	(8)	-7.42	(8)	-9.61*	(2)	-5.22*	(1)	-16.21*	(12)	-27.35*	(14)	-7.57*	(12)
$\tau$ (PP)	-9.71*	(1)	-9.52*	(3)	-7.08	(5)	-9.34*	(0)	-5.19*	(1)	-12.50*	(13)	-17.26*	(16)	-7.16*	(7)

Note: Ln Aycess represents quarterly stock prices of Altinyunus (Cesme) Hotel; ln Mmart is Marmaris Martı Hotel; ln Maalt is Marmaris Altinyunus Hotel; ln Nttur is Net Tourism; and finally, Metur is the Metemtur Hospitality and Tourism Management. All of the series are at their natural logarithms.  $\tau_T$ ,  $\tau_\mu$  and  $\tau$  respectively stands for the most general model, a model without trend, and the most restricted model without trend and intercept. Optimum lags have been selected based on the suggested criteria by ADF and PP approaches. \*, \*\* and \*\*\* stands for the rejection of the null hypothesis respectively at alpha 1%, 5% and 10% levels. Analyses have been done in E-VIEWS 6.0.

Table 4. The Bounds Test for Level Relationships

Variables	With Deterministic Trends			Without Deterministic Trend		Conclusion
	F <sub>IV</sub>	F <sub>V</sub>	t <sub>v</sub>	F <sub>III</sub>	t <sub>III</sub>	
F <sub>y</sub> (lnSI / lnGDP, lnIND)						H <sub>0</sub>
p = 5*	-	4.95	-3.81	7.65*	-3.79	Rejected
6	-	6.05*	-4.17	7.70*	-4.14*	
7	-	12.38*	-5.99*	13.01*	-5.71*	
8	-	16.06*	-6.88*	16.06*	-6.53*	

*Note: Bounds tests have been implemented by three different scenarios as also suggested by Pesaran et al. (2001). The fourth scenario was not applicable in this model. \* denotes the rejection of the null hypothesis of no long run relationship.*

Bounds test results suggest that there exists a long run relationship in the model where stock price index is dependent, real income and industrial productions are independent variables. This is because the null hypothesis of no long run relationship can be rejected according to F<sub>III</sub> and F<sub>V</sub> scenarios since computed F ratios are statistically significant. Therefore, it is important to suggest that in the model when Stock Prices in the tourism industry are dependent, there exists long term relationship between business conditions and financial performance of tourism firms in Turkey.

### 6.3 Level Equations and Error Correction Model

Once long run relationship has been investigated between stock prices and its regressors, the next step is to estimate level equation. Table 6 gives the estimation of long run elasticity coefficients of that level equation. It shows that none of the coefficients are statistically significant. Then, we need to look at short term coefficients.

Table 5. Level Equation with Constant and Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGGDP	-7.7249	7.4921	-1.0310	0.3057
LOGINDUSTRY	9.2271	7.4992	1.2304	0.2222
C	27.1461	80.1935	0.3385	0.7359

Table 6. The ARDL Error Correction Model for Stock Index (5, 4, 3)\* of tourism industry

Regressor	Coefficient	Standard Error	p-value
$\Delta \ln \text{Inst}_{t-1}$	0.1426	0.0965	0.1445
$\Delta \ln \text{Inst}_{t-2}$	-0.1860	0.0926	0.0489
$\Delta \ln \text{Inst}_{t-3}$	-0.1062	0.0954	0.2701
$\Delta \ln \text{Inst}_{t-4}$	-0.2476	0.0964	0.0126
$\Delta \ln \text{gdp}$	0.4751	0.9669	0.6248
$\Delta \ln \text{gdp}_{t-1}$	-2.0355	1.1246	0.0750
$\Delta \ln \text{gdp}_{t-2}$	0.8103	1.0020	0.4217
$\Delta \ln \text{gdp}_{t-3}$	-1.3965	0.9517	0.1472
$\Delta \ln \text{In}$	-0.7130	0.0750	0.0000
$\Delta \ln \text{In}_{t-1}$	1.8118	0.7263	0.0152
$\Delta \ln \text{In}_{t-2}$	2.3375	0.7120	0.0017
Intercept	0.008	0.0590	0.8910
$\text{ECMT}_{t-1}$	-0.2045	0.0410	0.0000

Adj.  $R^2 = 0.551330$ ,  
S.E. of Regr. = 0.376636,  
AIC = 1.037665, SBC = 1.43372,  
F-stat. = 6.5536, F-prob. = 0.000,  
D-W stat. = 2.1181

Note: \* denotes p lag structures in each model.

Table 6 gives the results of error correction model for short run coefficients and the speed of adjustment. Results show that there are some significant elasticity coefficients in the short term period as can be seen from Table 6. On the other hand, error corrections term is -0.2045 which is negative and statistically significant as expected. This means that stock prices converge to their long term equilibrium level at 20.45 percent by contribution of real income and industrial production. Results

from Table 6 also show that model is significant (F-test), and there exists no autocorrelation problem. So, the results are robust.

## 6.4 Conditional Granger Causality Tests

After detecting long run relationship, a significant and negative error correction term, in the next step, conditional Granger causality tests will be employed in order to investigate the direction of causality between the variables.

Table 7. Results of Granger Causality

Without Deterministic Trend				
Dependent Variable	F-statistics [probability values]			t-stat (prob) for $ECT_{t-1}$
	$\Delta \ln SI_t$	$\Delta \ln GDP_t$	$\Delta \ln I_t$	
$\Delta \ln SI_t$	-	0.295307 [0.5885]	1.085929 [0.3007]	-2.62085** [0.0106]
$\Delta \ln GDP_t$	0.322838 [0.5716]	-	1.854300 [0.1774]	-0.35076 [0.72675]
$\Delta \ln I_t$	0.077272 [0.7818]	54.25621* [0.000]	-	0.67847 [0.49956]
With Deterministic Trend				
Dependent Variable	F-statistics [probability values]			t-stat (prob) for $ECT_{t-1}$
	$\Delta \ln SI_t$	$\Delta \ln GDP_t$	$\Delta \ln I_t$	
$\Delta \ln SI_t$	-	0.2270 [0.6351]	1.9488 [0.1668]	-2.5664** [0.01227]
$\Delta \ln GDP_t$	0.3729 [0.5432]	-	3.2419*** [0.0758]	-1.5079 [0.13577]
$\Delta \ln I_t$	0.0895 [0.7656]	58.0777* [0.000]	-	-0.2500 [0.1270]

Note: \*, \*\*, and \*\*\* denotes the significance of the statistics at 0.01, 0.05, and 0.10 levels of alpha.

Table 7 reveals that there exists unidirectional (single) causality that runs from real income and industrial production to stock prices in the tourism and hospitality sector.



This is because t-ratios in the model where stock prices in the tourism and hospitality sector of Turkey are dependent variable. The other t-ratios of the other models are not significant.

Finally, F-statistics in Table 7 for short term causality reveals feedback (two-way or bidirectional) causality between real income and industrial production. This is because when GDP is dependent variable in the model without deterministic trend, F-ratio is significant for industrial production and when industrial production is dependent variable in the model with deterministic trend, F-ratio for GDP is also significant.

To summarize, stock price movements in the tourism and hospitality sector of Turkey are in long run equilibrium relationship with its determinants that are real income and industrial production (business conditions). Furthermore, income and business environment (conditions) are catalyst for stock prices of the tourism and hospitality sector of Turkey in the long run period as investigated from Granger causality tests.

## **Chapter 7**

### **CONCLUSION**

#### **7.1 Conclusion**

Turkey is a developing country, which has shown a remarkable development in international tourism apart from 1980s. According to the figures of World Tourism Organization, Turkey ranks 7<sup>th</sup> out of attracting international tourists to domestic markets and ranks 10<sup>th</sup> out of generating tourism revenues. The city of Antalya also ranks 4<sup>th</sup> among the others out of attracting international tourists from the other countries. Turkey has also considerable attempts on the way of industrialization after 1980s which has also shown important developments in the services industry as well. In 2010, value added of services industry in Turkey has been about 65 percent of GDP and of industry well above 25% of GDP. These two figures show how services and industrial productions play important role in the economy of Turkey.

The starting point of this research is that financial performance in the tourism industry of Turkey as a services industry should be affected from industry and from the economy as a whole. Chen (2007) proves that financial performance of tourism firms in China and Taiwan is significantly influenced from business conditions and the economy. Since it is business sector that shapes industry in an economy, Chen

(2007) proxies business conditions by industrial value added. This case deserves also attention from researchers for Turkey. Searching the interactions between business conditions and financial performance of tourism firms in Turkey would be a hot issue with this respect; therefore, this thesis has aimed to investigate this relationship for this large tourist destination country.

Five large tourism companies that trade in Istanbul Stock Exchange have been selected based on data availability. These firms are: Çeşme Altinyunus Hotel, Marmaris Altnyunus Hotel, Marmaris Marti Hotel, Metemtur Tourism, and Net Tourism companies. Financial performance of these companies have been proxied by stock price index, which is computed based on the value weighted stock prices as also suggested by Chen (2007). Business conditions are also proxied by two variables: industrial value added and real GDP. Various econometric techniques like unit root tests for stationarity, bounds test for long run relationship, error correction models for short term and long term dynamics, and Granger causality tests for the direction of causality between variables have been employed to a quarterly data between 1991:Q1 and 2011:Q2.

Unit root tests showed that variables are integrated of mixed order. Therefore, bounds test has been employed in this thesis which was developed by Pesaran et al. (2001). The main idea of this thesis was to estimate the impact of business conditions on financial performance of tourism firms in Turkey; therefore, stock price index would be dependent variable while industrial value added and real GDP would be regressors in the further analyses of this thesis. Bounds tests in the present thesis

have confirmed the validity of long run equilibrium relationship between financial performance of tourism firms and business conditions in Turkey. Stock price index of tourism firms converge to its long term equilibrium level by 20.45 percent by the contribution of business conditions. Finally, Granger causality tests under error correction mechanism revealed that unidirectional causation that runs from business conditions to the financial performance of tourism firms in the long term period of the Turkish economy. Granger causality tests have shown only one causality in the short term period, which is bidirectional causality (feedback relationship) between industrial value added and real income (GDP).

## **7.2 Recommendations**

This thesis has validated of the long term impact of business conditions on the financial performance of tourism firms in Turkey. The results of this present research are parallel to the work of Chen (2007). Therefore, this major finding sends a message to policy makers and to the whole stakeholders. This study has shown that business environment should be promoted, aided, and encouraged in Turkey. This is also because of the fact that Turkey is one of the top tourist destination countries anymore. Special business conditions should be provided by government. Various tax deductions or exemptions might be some ways to promote business environment and tourism industry. Secondly, product and service quality should be empowered in the industrial and tourism sectors. Quality of labor force should be increased. There are many universities that provide education in the tourism and hospitality industry of Turkey. The sector should benefit from this new happening in Turkey. Business environment in general should also give more priority to succesfull graduates as

young generations. And finally, there are studies as well which investigates macroeconomic forces behind financial performance of tourism companies in the existing literature. For example, Chen et al. (2005) suggest that monetary policy and unemployment influence the financial performance of tourism companies in Taiwan. Therefore, the authorities in Turkey should give special attention to the determination of factors which are likely to influence the financial performance of tourism companies in Turkey.

### **7.3 Limitations of the Study and Further Research**

This thesis has used a quarterly data for five important tourism firms in Turkey. This was completely due to data availability. Further research can be replicated using more tourism companies in Turkey as data availability will be available. On the other hand, as also investigated by Chen et al. (2005) another further research can be implemented in order to investigate the other macroeconomic factors affecting financial performance of tourism firms in Turkey. And finally, similar study can be done for the other major tourist destination countries around the world for comparison purposes.

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