Interactions between Business Conditions and Financial Performance of Airlines in Top Ranking Tourism Destination Countries: an Empirical Investigation from Panel Data Analysis

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

Master of Science
in
Banking and Finance

Eastern Mediterranean University
January 2013
Gazimağusa, North Cyprus

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ABSTRACT

This thesis focuses on investigations the role of real income and industry sector on stock price movements in important airline companies around the world. Panel data analysis has been employed with this respect. Results of the thesis prove that economic growth and industrial growth exerts statistically significant impact on stock price movements of international airline companies. Stock prices converse to long term path by 4.10 percent through macroeconomic activity and business conditions.

Keywords: Stock Prices; Business Conditions; Panel Data Analysis; Error Correction Model.

ÖZ

Bu tez çalışması dünya genelinde önemli hava yolu şirketlerinde ekonomik faaliyetler ile finansal performans arasındaki ilişkiyi incelemektedir, varılan sonuçlara göre ülkelerdeki ekonomik faaliyet ile sanayi üretiminin havayolu şirketlerinin hisse senedi ve dolayısıyle finansal performanslar, üzerinde anlamlı bir etkisi tespit edilmiştir.

Havayolu şirketlerinin hisse senedi fıyatları uzun dönem denge düzeyine ekonomik faaliyet ve iş dünyası kanalıyla 4.10% hızla yaklaşmaktadır.

Anahtar kelimeler: Hisse Senedi Fiyatları; İş Dünyası; Panel Veri Analizi; Hata Düzeltme Modeli.

ACKNOWLEDGMENTS

I would like to thank my supervisor Assoc. Prof. Dr. Salih Katırcıoğlu for his progressive advices, support and encouragement for making this thesis.

I am gratitude to my family, my father Nasrollah farhangmehr, my mother Mahtab Irani and my sister Tahmineh Farhangmehr for their invaluable and continuous support throughout my studies and my life.

I owe quite a lot to my husband Bamdad Aminaee Chatroodi that is one of the most important people in my life.

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LIST OF ABBREVIATIONS

ADF test	Augmented Dickey-Fuller test
AR	Autoregressive
ARDL	Auto Regressive Distributed Lag
AIC	Akaike Information Criteria
BC	Business Conditions
CSP	Corporate Social Performance
ECM	Error Correction Model
ECT	Error Correction Term
FP	Financial Performance
GDP	Gross Domestic Product
IND	Industry
IPS	IM, Pesaran and Shin
LCC	Low Cost Carriers
LLC	Levin, Lin and Chu
LR	Long Run
M-W test	Maddala and Wu
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

Transportation is the movement of people, animals and goods from one location to another. From earlier human was looking for the fastest way of transportation, one of the ways that experienced so many times was aviation. The action of transporting someone or something or the process of being transported: the era of global mass transportation.[1]

When human found an easy way for transportation, tourism industry is created. Tourism is defined by the scope established by the United Nations Statistical Commission through the Tourism Satellite Account[2], which says that tourism consist of ―act of travelling a person and remaining in places different from their environment for not more than one sequential year for enjoyment, relaxation, business and other purposes. Travel for purposes of religion, health, education and cultural or language learning are particularly beneficial forms of tourism, which deserve encouragement.

Giving service to the passengers and preparing the airplanes well for them is the most important challenge between other airlines. After the financial crisis around the world the price of transportation was so fundamental, based on this, managers make some solution for decreasing the price. Discount airlines, also known as low-cost

[1] Oxford English Dictionary
[2] Recommended Methodological Framework (TSA: RMF)

carriers (LCCs) have changed the nature of our fly and changed the appearances of our expectations for air travel. When the first LCCs took flight around 30 years ago, most of the flights obeyed the same simple formula: no food or frills, just simple pricing, the money payable for journey on public transport would be low and the transportation would be basic. That business model helped fledgling LCCs compete against the much larger and well-established "network" or "legacy" airlines which overlooked air travel for much of the 20th century.[3]

These days airline industry has this situation that firms set prices and domestic routes given market conditions, but where access to some key inputs, such as airport boarding gates, are determined by non-market mechanisms. While profits have rise and fall irregularly with a great deal, the industry has been characterized by firmly fixed growth, falling prices, and moderate concentration, suggesting a positive impact of deregulation. Policies to distribute some key inputs on a market basis may yield even more efficient outcomes.[4]

After comparing other sectors of the global economy, the tourism industry is one of the fastest growing, accounting for more than one third of the total global services trade. In recent years, air transportation has increased more than surface transportation and the expansion of low-cost air travel has greatly altered the tourism industry in many regions.[5]

In the previous Literature, there are very few studies that consider the relationship between business conditions and financial performance in the tourism industry. For

[3] David Grossman, USA Today, 2009
[4] FBRSF Economic Letter, Number 2002-01, 2002
[5] www.unwto.org/pdf/T20_official.pdf

example, Chen studies on a similar research for the hotel and airline industry in the case of China and Taiwan. It's found that Business conditions and growth in tourism industry also have strong impact on financial performance of tourism firms (Chen et al., 2009). Chen (2007) also finds that business condition and financial performance in the tourism firms of China and Taiwan reinforce each other.

However, investigation of the interactions between business conditions and financial performance deserves further attention from researchers. The idea of this thesis is considerable enough for stakeholders and business managers who want to investment on tourism destination firms Therefore; this thesis is mainly focused on studying the interactions between business conditions and financial performance of airlines in important tourism destination countries.

The positive economic occured with a good business condition and this positive economic influence on business firms and this is why business managers and policy makers pay attention to overall business conditions(Jean et al., 2004). When the positive economic influences on tourism industry it increases the sales and earnings which also increases the financial performance of economic firms conditions (Chen, 2005).

This thesis tries to investigate ways for improving business conditions and financial performance of airlines in top ranking tourism industries and find that if financial success of the airlines matters to business development. In general, co integration test results support a long-run equilibrium relationship between the two variables,

business conditions and financial performance of Airline companies, and Granger causality test results show that these two factors support each other.

The plan to be carried in this research is first finding statistical data, such as GDP and searching and evaluating industrial production and stock prices of airlines in important tourism destination countries to find how they work and which process they follow to be in this condition.

To achieve this goal ten important airlines have chosen, and these airlines are following below:

1.	Aeroflot Russian Airline	Russia
2.	Air Arabia	Saudi Arabia
3.	Air France	France
4.	Asiana Airlines	Korea, Rep.
5.	China Airlines	China
6.	Cyprus Airways	Cyprus
7.	Deutsche Lutfhansa	Germany
8.	Malaysian Airlines	Malaysia
9.	Singapore Airlines	Singapore
10.	Turkish Airlines	Turkey

The structure of this study is as follow: Chapter1 is the introduction of this thesis; Chapter 2 will review the literature on financial performance, business condition and economic growth and the relationship between them. Chapter 3 will explore the data and methodology of this study and Chapter 4 will cover the analysis of the data and results. Finally, Chapter 5 very briefly gives some conclusion points,

recommendations, and the limitations of this study and some possibilities for further studies.

Chapter 2

LITERATURE REVIEW

In the previous literature, there are very few studies that consider the relationship between business conditions and financial performance in the Airline industry. In this part we briefly mentioned the existing researches till the date.

Chen (2007) finds that in China and Taiwan there are some influence between business condition and financial performance and also discovers Long run equivalence relationship between these variables and these variables empower each other. And also Chen et al. (2006) discusses about a bi-directional causality that has been important between tourism development and economic growth.

Chiesa, T. (2009) verifies that the tourism industry and its role are considered as actors of social development and reduce the poverty in that specific region. However, it is obvious that tourism industry has been a long process and remains unfinished business.

Chen and Kim (2006) argue that developing the tourism industry has an important role on tourism firm's earnings and it is much more important than their stock performance. And tourism development could make better the corporate earnings of tourism firms by increasing corporate earnings.

Chen (2009) has the idea that return on assets (ROA) and return on equity (ROE), stock return to investigates impact of economy and tourism growth on tourism industry are indicators of corporate performance in Taiwan.

Sandra A. Waddock and Samuel B. Graves (1997) study a hypothesis that has three issues: the positive association, the negative association and the neutral association. In positive association they found that there is a positive relationship between Corporate Social Performance and financial performance. A compatible view is that the actual costs of CSP are minimal and the benefits potentially great. On the other hand in the negative association, the second perspective, they arguing that there are a negative relationship between social and financial performance and believe that firms that perform responsibly incur a competitive disadvantage. In the neutral association also has another perspective that argue that there are so many intervening variables between social and financial performance that there is no reason to expect a relationship to exist, except possibly by chance.

Fayissa et al., (2008) find that expending money by international tourists in African countries has the positive impact on economic growth on those countries.

Amalendu Bhunia, Fakir Chand, (2011) found that financial performance means firm's totally financial health over a given period of time. According to Amalendu Bhunia, Fakir Chand, (2011) financial performance analysis is fundamental for the success of an investment. Financial performance analysis is an evaluation of the possibility, stability and productivity of a business, sub-business or mission.

Tang and Jang (2009) study about the relationship between the GDP in United States of America and some tourism companies such as airlines, hotels, restaurants, and every company which are related to the tourism industry.

Furthermore there are some researches which show specifically the forecast of industry performance of the airline industry ((Choi, 1999), (Wheaton at al., 1998)).

Boraˇgan Aruoba, Diebold, Scotti, (2008) study that aggregate business conditions are of central importance in the business, finance, and policy communities, worldwide, and huge resources are assigned to evaluation of the continuously evolving state of the real economy. S. Boraˇgan Aruoba, Francis X. Diebold, Chiara Scotti, (2008) extract and forecast unclear business conditions using linear yet statistically optimal methods, which involve no approximations. Desiring the exact approximate procedures is obvious, however achieving the exact is not, due to complications arising from temporal aggregation of stocks vs. flows in systems with mixed frequency data.

Evans (2005) does not use high-frequency data, instead focusing on estimating high-frequency GDP. Evans (2005) equates business conditions with GDP growth and uses state space methods to estimate daily GDP growth using data on primary, advanced and final releases of GDP and other macroeconomic variables.

Barrows and Naka (1994) discovers that there are five selected economic variables which determine the return on stock price of tourism industries in United States of America. Barrows and Naka (1994) introduces these five economic variables as the

expected inflation rate, industrial product, interest rate, domestic consumption and money supply.

Dritsakis (2004) try to give us this prospective that there are two ways functionality between GDP growth rate and amount receivable from tourism industry. Dritsakis (2004) also investigate that in Greece the tourism companies such as hotels restaurants and other companies related to the tourism industry have a long term impact on the economic growth.

Gündüz and Hatemi-J (2005) study the fact that many developing countries find that giving priority to the tourism industry is the reason for their economic growth. Gündüz at al., (2005) also test this approach on Turky which is one of the developing countries and discover that the results are positive for Turky too.

Proenca at al., (2008) study about four Southern European countries and investigated that by improving the tourism industry the quality of life in these countries is increased.

Chen et al. (2005) show that the macroeconomic forces such as the monetary policy and the unemployment rate significantly affect financial performance of the Taiwanese hotel. They examine that when changing happen in unemployment rate and money supply growth rate, then they influenced directly on Taiwanese hotels stock returns because these items are two important economic factors. So, economic factors and also non-economic events absolutely could have serious effect on hotel stock returns in China (Chen 2007).they also introduce non-economic events as

terrorist attacks, natural disasters like (earthquakes, flood, and storms) , wars, presidential elections.

Chapter 3

DATA AND METHODOLOGY

3.1 Data Description

This thesis employs panel data analysis in order to estimate the impact of business conditions as proxied by real gross domestic product and industrial value added on stock price movements of airline companies. Variables of the thesis are, therefore, real gross domestic product (GDP) and real industrial production (or value added) (IND) of countries where selected airline companies belong to, and stock prices of airline firms under consideration. All of the variables are at constant 2000 USD prices. Data for GDP and IND are gathered from World Bank (2012) while stock prices of airline firms are gathered from Data Stream Software of Thomson Reuters (2012). Selection of airline firms has been made based on data availability. Special care has been also given to the fact that they should belong to important tourist destination countries, be from a variety of countries in size and population and from different regions of the world. With this respect, ten airline companies have been selected in this thesis which are presented in Table 1 with their country of origin and stock prices as of the end of 2011:

Table 1. List of Airline Companies under Consideration

No.	Airline Company	Country of Origin	Stock Price per share (USD)
1.	Aeroflot Russian Airline	Russia	2.28
2.	Air Arabia	Saudi Arabia	0.18
3.	Air France	France	10.42
4.	Asiana Airlines	Korea, Rep.	9.27
5.	China Airlines	China	0.53
6.	Cyprus Airways	Cyprus	0.06
7.	Deutsche Lutfhansa	Germany	18.02
8.	Malaysian Airlines	Malaysia	0.53
9.	Singapore Airlines	Singapore	9.68
10.	Turkish Airlines	Turkey	1.58

When Table 1 is considered, it is seen that four are developed countries (Cyprus, France, Germany, and Singapore) while the others are developing ones; Cyprus is a small island state. This is to note that this diversity of countries from different regions of the world will be important in studying the impact of economic activity on stock price movements.

3.2 Panel Unit Root Tests

This thesis have adopted panel unit root tests in order to test stationarity of variables under consideration. One of the assumptions of classical linear regression models is that variables are stationary in estimation (Gujarati, 2003). Therefore, this should be detected using various and contemporary approaches in econometrics. Approaches including Levin, Lin and Chu (LLC) (2002), Im, Pesaran and Shin (IPS) (2003), and Maddala and Wu (1999), (M-W), have been employed in this thesis with this respect in order to test for the unit root process of the series. Levin, Lin and Chu (2002) unit root test assumes common unit root process under panel setting where the IPS and M-W tests assume individual unit root process (Katircioglu et al., 2009). All of the above mentioned unit root tests suggest the null hypothesis of a unit root while the alternative hypothesis suggests no unit root in the series. This means that in the case of an acceptance of the null hypothesis suggest that variable is non-stationary while

in the case of a rejection suggests that variable is stationary either at level, at first difference, or at second difference. If series are stationary at levels, they are said to be integrated of order zero, I (0); if series are non-stationary at levels but become stationary at first difference, then, they are said to be integrated of order one, I (1). It is also likely that series might be integrated of order two, I (2), too. Finally, it is important to mentioned that autoregressive models have been used in unit root tests using various combinations of "with/without trend and intercept" options (See Enders, 1995).

3.3 Empirical Model Setting

This thesis suggests that business conditions can be proxied by GDP and industrial value added; which can be determinants of stock performance of airline firms in paralel to the suggestion of Chen (2011). Therefore, the following functional relationship has been put forward in this thesis:

$Stock_t = f\ (GDP_t, IND_t)$

(1)

Where stock stands for stock prices of airline companies at period t, GDP is gross domestic product at period t, and IND is industrial value added at period t. Equation (1) can be estimated by the following linear equation and in natural logarithmic form in order to obtain growth effects of GDP and IND on stock prices (Katircioglu, 2010):

$$\ln Stock_t = \beta_0 + \beta_1 \ln GDP_t + \beta_2 \ln IND_t + \varepsilon_t$$

(2)

Equation (2) is a long run growth regression where β_0 is intercept, β_1 is the elasticity coefficient of GDP, β_2 is the elasticity coefficient of IND, and ε_t is white noise error term.

3.4 Cointegration Tests

Variables in equation (2) are suggested to be stationary series as mentioned before. In the case that they are non-stationary at levels but become stationary by differencing; then, simple estimation from classical assumptions (see Gujarati, 2003) does not hold. Further detections are needed in estimation. When series become stationary only by differencing, then, short term and long term coefficients as well as deviation from long term equilibrium path should be estimated. Furthermore, when series under inspection are stationary at their levels, it is assumed that dependent variable move in the long term period through the channels of its regressors which means long term relationship. But, when differencing the series, they will deviate from long term relationship. It is still possible that they might be in a long term relationship. This should be detected by cointegration tests using various approaches (Gujarati, 2003). Therefore, prior to estimating long term and short term coefficients, and deviations from long term path, cointegration tests should be carried out.

There are various traditional and contemporary approaches to run cointegration tests in the econometrics literature. The term “cointegration” implies “co-movement” and therefore, long term relationship among the series. However, there is a precondition of these cointegration tests as advised in the literature: If series become stationary at first differences, they need to be integrated of the same order, either I (1) or I (2) in order to enable them to move in the long term path. Otherwise, contemporary

econometrics literature does not allow to test for cointegration tests in panel data analysis (See Gujarati, 2003 and Enders, 1995 for further details).

This thesis will employ contemporary approaches of cointegration tests to investigate if long term equilibrium relationship exists in equation (1) where we assume that series are non-stationary. These approaches are Pedroni and Kao Engel-Granger based cointegration tests plus Fisher (combined) Johansen based cointegration tests. These various approaches will be employed for comparison purposes.

3.5 Error Correction Model

Once cointegration is detected in equation (1), then level coefficients as presented in equation (2) can be estimated (Katircioglu, 2010). Thenafter, deviations from long term path of dependent variable should be estimated in addition to short term coefficients by differencing the variables. These are done through estimating error correction model (ECM). The present thesis will estimate the following ECM regression with this respect:

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

In equation (3), Δ represents a change in the Stock, GDP, and IND variables and ε_{t-1} is the one period lagged error correction term (ECT), which is estimated from equation (2) (Katircioglu, 2010). ECT in equation (3) shows how fast the disequilibrium between the short-run and the long-run values of stock prices is eliminated each period (each year in this case). The expected sign of ECT is always

negative which should also be statistically significant in order to make inference (Katircioglu, 2010).

Finally, in equation (2) is also a short run model where β_0 is intercept in the short run, β_1 is the short run elasticity coefficient of lagged Stock variable, β_2 is the short run elasticity coefficient of GDP, β_3 is the short run elasticity coefficient of IND and β_4 is the coefficient of ECT, and μ_t is white noise error term.

Chapter 4

RESULTS

This chapter will present empirical results from panel data econometric procedure. Firstly, panel unit root tests will be examined in the first section. Before running unit root tests, it is helpful to plot the data. Figure 1 plots the natural logarithm of Stock, GDP, and IND variables under consideration. Since the selected countries possess different economic structure and are in different economic size, it is quite normal to see sharp changes in the series of GDP and industrial value added from Figure 1. It is important to note that there were some missing observations in the stock prices of some countries as can be seen from Figure 1. But, in general, Figure 1 shows that number of observations are sufficient to carry out an econometric analysis.

4.1 Panel Unit Root Test Results

Table 2 present panel unit root test results from LLC, IPS, and M-W approaches. Results should be evaluated very carefully and it is essential to evaluate each variable individually. When lnStock is considered, results reveal the null hypothesis of a unit root can be rejected; therefore, it is stationary and integrated of order zero, I (0), only when trend is included. However, when trend is omitted, IPS and M-W approaches suggest that lnStock variable is non-stationary at its level unlike the finding of LLC approach. LLC considers common unit root process while IPS and M-W consider individual unit root process. Therefore, it will be essential to take IPS and M-W tests into final consideration.

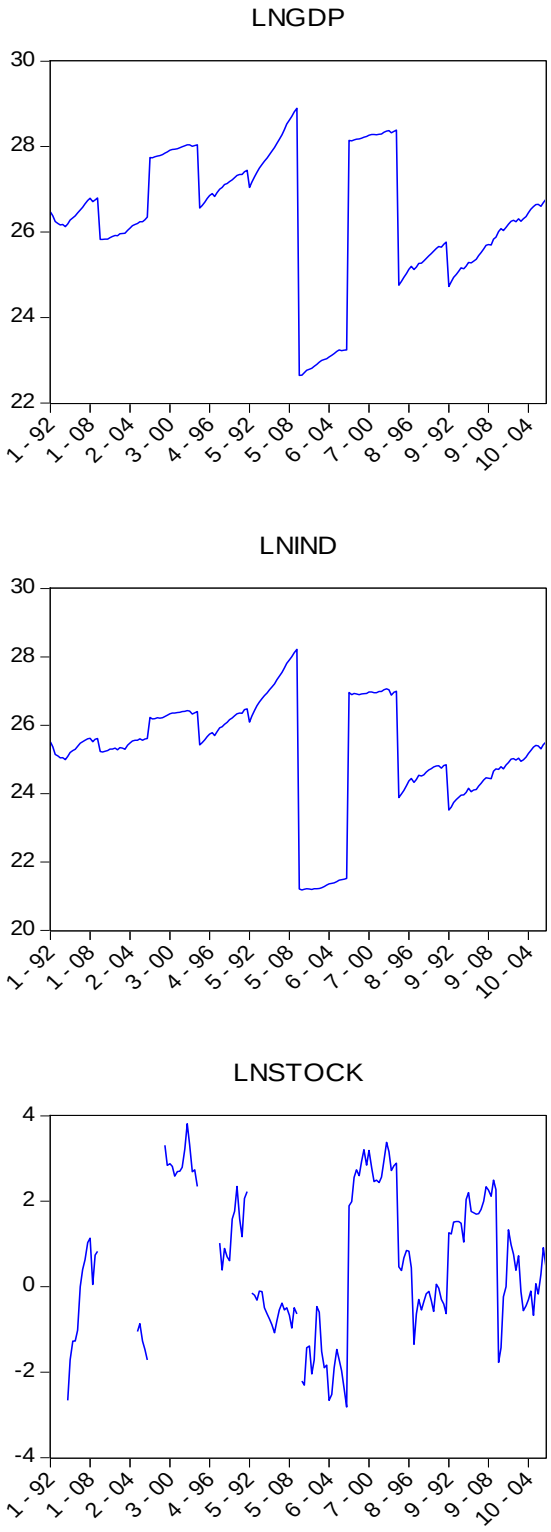

Figure 1.
Line Plots of Variables under Consideration

Table 2. Panel Unit Root Tests

	Levels			1st Difference		
Variables	LLC	IPS	M-W	LLC	IPS	M-W
lnStock						
τ_T	-35.918*	-6.444*	39.584*	-8.127*	-5.313*	60.055*
τ_μ	-3.298*	-1.183	26.036	-46.783*	-17.185*	105.207*
τ	-0.582	-	30.716***	-12.066*	-	140.638*
lnGDP						
τ_T	-2.386*	-1.242	26.003	-6.731*	-5.118*	59.526*
τ_μ	-0.122	3.095	8.496	-7.095*	-6.658*	78.747*
τ	9.686	-	0.200	-3.303*	-	61.931*
lnIND						
τ_T	-1.764**	-1.746**	29.891***	-7.174*	-5.434*	64.167*
τ_μ	-2.170**	0.410	22.861	-8.89*	-7.913*	93.606*
τ	9.664	-	1.390	-4.850*	-	107.051*

Note:
lnStock stands for the natural logarithm of stock prices; lnGDP is the natural logarithm of gross domestic product; and lnIND is the natural logarithm of industrial value added. τ_T stands for the test statistic of the most general model with an intercept and trend; τ_μ is the test statistic of the model with an intercept but without trend; τ is the test statistics of the most restricted model without intercept and trend. As advised in the literature, optimum lag lengths are selected based on Schwartz Criterion. Finally, * denotes rejection of the null hypothesis at the 1% level. Tests for unit roots have been done in E-VIEWS 7.2.

Furthermore, when Figure 1 is considered, series do not seem to follow a trend therefore it will be better to omit trend variable from unit root test. But, it is essential to include intercept (drift) in these tests. It is seen from Table 2 that IPS unit root tests without drift is not applicable.

Based on the above considerations we conclude that lnStock variable in this research thesis is non-stationary at its level but become stationary at its first difference and therefore integrated of order one, I (1). lnStock is integrated of order one, I (1), because the null hypothesis of a unit root can be rejected all the time throughout different approaches as can be seen from Table 2.

The second variable to evaluate is lnGDP. Results for this variable are very similiar to those with lnStock variable. Table 2 shows that when trend factor is omitted from panel unit root tests, the null hypothesis of a unit root cannot be rejected at its level but can be rejected at its first difference. Even IPS and M-W approaches do not reject the null hypothesis of a unit root in lnGDP at its level. Results conclude that lnGDP in our study is integrated of order one, I (1).

And the third variable to evaluate is lnIND. Results for lnIND reveals exactly the same conclusion like those in lnStock again. Therefore, we again conclude that lnIND variable is also integrated of order one, I (1), according to panel unit root test results.

Results of panel unit root tests suggest that lnStock, lnGDP, and lnIND are integrated of the same order, which are all I (1). Since these variables are not stationary at their levels but become stationary at their first difference (the same order of integration), there is possibility that they might in a cointegrating or long term relationship as presented in equations (1) and (2); therefore, Engel-Granger and Johansen based cointegration tests will be adopted in this thesis and presented in the next section.

4.2 Cointegration Analysis

This section presents and discusses cointegration results which are provided in Table 3 with three different approaches. Panel (a) provides results from Pedroni cointegration tests which are based on Engel-Granger approach under three different scenarios: (1) with trend and intercept; (2) without trend but with intercept; (3) without trend and intercept. When common autoregressive (AR) coefficients (within-dimension) are assumed, it is seen that the null hypothesis of no cointegration can be rejected only when trend is included (and only according to Phillips-Perrron and ADF approaches).

Table 3. Cointegration Tests: Panel (a). Pedroni (Engel-Granger based) Cointegration Tests

	Alternative hypothesis: common AR coefs. (within-dimension)		
Test Statistic	Trend and Intercept	Intercept	Without Trend and Intercept
Panel v-Statistic	-0.456	-0.948	-0.749
Panel rho-Statistic	2.102	2.321	1.968
Panel PP-Statistic	-2.493*	1.461	-0.492
Panel ADF-Statistic	-2.574*	1.577	-0.032

	Alternative hypothesis: individual AR coefs. (between-dimension)		
Test Statistic	Trend and Intercept	Intercept	Without Trend and Intercept
Group rho-Statistic	3.426	3.151	3.726
Group PP-Statistic	-2.290**	1.087	-1.850**
Group ADF-Statistic	-2.245**	1.006	-0.585

Panel (b). Kao (Engel-Granger based) Cointegration Test

Null hypothesis: No Cointegration	
Test Statistic	Individual Intercept
	Rho
DF	2.133**

Panel (c). Fisher (combined Johansen based) Cointegration Test

Null hypothesis: No Co integration		
Hypothesized No. of CE(s)	Fisher Stat.* (from trace test)	Fisher Stat.* (from max-Eigen test)
None	108.3*	99.65*
At most 1	29.16**	22.28
At most 2	32.66**	32.66**

*Note: * and ** denote the rejection of the null hypothesis at 0.01 and 0.05 levels in panels (a), (b), and (c).*

When individual AR coefficients are assumed, the null hypothesis of no cointegration can be again rejected at various approaches in panel (a) for Pedroni cointegration tests. This is since there are statistically significant test statistics.

On the other hand, panel (b) presents results from Kao cointegration test which is again based on Engel-Granger approach. Dickey-Fuller (DF) test statistic is statistically significant at 0.05 alpha level; therefore, the null hypothesis of no cointegration can be again rejected according to this approach.

Finally, panel (c) presents results of Fisher cointegration test which is based on the Johansen approach. It is seen that Fisher statistics from trace and maximum eigen tests can be rejected at 0.01 alpha levels when the null hypothesis is "no cointegrating vector); thus, the existence of cointegrating vector in equation (1) has been confirmed by Fisher approach as well.

To summarize, three different approaches in Table 3 of this thesis have confirmed the existence of cointegration relationship in equation (1); hence, it is to say that lnStock is in a long term equilibrium relationship with lnGDP and lnIND varibles.

Business conditions have long term economic and statistical impact on stock movements in the selected countries of the present thesis.

Since equation (1) is a cointegrating model, long run and short run coefficients should be estimated in the next step. Short run coefficients will be estimated under error correction mechanism which also provides error correction term to see how discrepancy between long run and short run values of dependent variable (lnStock) are eliminated each period.

4.3 Long Run Coefficients and Error Correction Model

This section provides level estimation as formulated in equation (2) and vector error correction model estimation as formulated in equation (3) of this thesis. Estimation of level coefficients are presented in "Cointegration Model" section of Table 4 while vector error correction model is provided in the second section of the same table.

Table 4. Level Equations and Error Correction Model

Co integration Model	Coefficients	t-stat
$lnStock_{t-1}$	1.000	
$lnGDP_{t-1}$	4.636	2.796**
$lnIND_{t-1}$	-4.862	-3.147*
C	-0.450	
Error Correction Model	**ΔlnStock**	
ECT_{t-1}	-0.041	-2.042**
$\Delta lnStock_{t-1}$	0.075	0.801
$\Delta lnStock_{t-2}$	-0.080	-0.878
$\Delta lnGDP_{t-1}$	-4.820	-1.805***
$\Delta lnGDP_{t-2}$	-0.056	-0.021
$\Delta lnIND_{t-1}$	1.829	1.049
$\Delta lnIND_{t-2}$	-0.662	-0.371
C	0.170	2.119**
Adj. R-squared	0.031	
S.E. equation	0.440	
F-statistic	1.608	
Akaike AIC	1.256	
Schwarz SC	1.431	

Notes: (1) * and ** denote statistical significance of variables at the 0.01 and 0.05 alpha levels respectively. (2) Optimum lag is 2 as selected by Schwartz Criterion.

In level equation, it is seen that lnGDP exerts positive long term impact on ln Stock at lag one which is also statistically significant; it suggests that one percent change in gross domestic product would lead to a 4.636 percent change in stock prices in the same direction for the countries under inspection. On the other hand, long term elasticity coefficient of lnIND is negative and statistically significant again; it suggests that one percent change in business activity would lead to a 4.862 percent change in stock prices in the reverse direction.

In error correction model, error correction term plus short term coefficients are provided as presented in Table 3. ECT is 0.041, negative (as expected), and statistically significant. It means that 4.1 percent of the difference between long term and short term equilibrium values of stock prices are eliminated at the end of every quarter through the channel of business conditions. ECT is not high but is negative and statistically significant. Results from error correction models suggest that disequilibrium in stock prices converge to equilibrium at low levels through business conditions. Finally, short term coefficient of GDP at lag 2 and intercept of error correction model in Table 3 are statistically significant while the others are not. However, short term coefficient of GDP is again negative denoting that short term movements in economic aggregate and stock prices are in reverse directions.

Chapter 5

CONCLUSION

5.1 Conclusion

This Thesis chooses this diversity of countries from different regions of the world that will be important in studying the impact of economic activity on stock price movements. it is seen that four are developed countries (Cyprus, France, Germany, and Singapore) while the others are developing ones (China, Korea, Malaysia, Russia, Saudi Arabia).

The purpose of the current study is to determine that industry and economy could influence on financial performance in airline industries. There are some studies about this relationship for Chinese and Taiwanese tourism industries Chen (2007).

This thesis selected ten airline companies based on how much data could find from Data Stream software or World Bank. This fact is also considerable that they should belong to important tourist destination countries, be from a variety of countries in size and population and from different regions of the world.

These airlines are: Aeroflot Russian Airline, Air Arabia, Air France, Asiana Airlines, China Airlines, Cyprus Airways, Deutsche Lufthansa, Malaysian Airlines, Singapore Airlines, and Turkish Airlines.

By following Ezzemel (1992), Nicolau (2002), and Chen and Bin (2001), This thesis uses stock price as an indicator for respective financial performance, Gross Domestic Product (GDP) uses as an indicator for Business Condition. Industrial Product (IP) measures business development that can concentrate more on the manufacturing side of the economy. The benefit of using IP data is that IP is a monthly measure, which can give a better estimation because of providing more observation.

A number of important econometric techniques like panel unit root tests for stationarity, Engel-granger and johansen based cointegration test, Long Run coefficients and Error correction models for short term and long term dynamics, and Granger causality tests for the direction of causality between variables.

Panel unit root tests finded that these variables are not stationary at their levels but become stationary at their first difference. 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.

Cointegration Test presents and discusses cointegration results which are presented in three different approaches. Panel (a) provides results from Pedroni cointegration tests which are based on Engel-Granger approach. When common autoregressive (AR) coefficients (within-dimension) are assumed, it is seen that the null hypothesis of no cointegration can be rejected only when trend is included (and only according to Phillips-Perrron and ADF approaches). On the other hand, panel (b) presents results from Kao cointegration test which is again based on Engel-Granger approach. Dickey-Fuller (DF) test statistic is statistically significant at 0.05 alpha level;

therefore, the null hypothesis of no cointegration can be again rejected according to this approach. Finally, panel (c) presents results of Fisher cointegration test which is based on the Johansen approach. It is seen that Fisher statistics from trace and maximum eigen tests can be rejected at 0.01 alpha levels when the null hypothesis is "no cointegrating vector"; Business conditions have long term economic and statistical impact on stock movements in the selected countries of the present thesis.
In level equation, it is seen that lnGDP exerts positive long term impact on ln Stock at lag one which is also statistically significant; On the other hand, long term elasticity coefficient of lnIND is negative and statistically significant again;

In error correction model, error correction term plus short term coefficients are provided . ECT is 0.041, negative (as expected), and statistically significant. It means that 4.1 percent of the difference between long term and short term equilibrium values of stock prices are eliminated at the end of every quarter through the channel of business conditions. Results from error correction models suggest that disequilibrium in stock prices converge to equilibrium at low levels through business conditions. Finally, short term coefficient of GDP at lag 2 and intercept of error correction model are statistically significant while the others are not. However, short term coefficient of GDP is again negative denoting that short term movements in economic aggregate and stock prices are in reverse directions.

5.2 Recommendations

This thesis tried to investigate ways for improving business conditions and financial performance of airlines in top ranking tourism industries and found the answer for this question: is succeeding in financial performance of these airline companies' matters to business development? By giving a positive answer to this question this

thesis conclude that this study could be important for policy makers, stakeholders, share holders, investors and brokers. It is recommended to the stakeholders in tourism development such as airline industries to recognize the role of all international companies or institutions and also recognize which Tourism Organization Ranks better and which one is more successful in financial performance.

Chen (2006) notes that Chinese hotel stock returns associated specific with a growth rate of industrial production, growth in imports, changes in discount rates, and changes in the yield spread. In the future of tourism industry researchers can perform the test using these economic factors. It would be interesting to assess the effects of these factors for the airline industries around the world.

It is recommended that further research chose other airline companies located in another part of the world such as United States of America, Australia and Latin American countries.

It is recommended to the governments of the countries that mentioned in this thesis, to be influential for improving business condition. Increasing the Quality of labor force.Decreasing taxes or exemptions might be some ways to promote business environment and tourism industry. product and service quality should be energize in the industrial and tourism sectors.

5.3 Limitations for Further Research

This thesis selected ten airline companies based on how much data could find from Data Stream software or World Bank which all of them located in Asia and Europe

and has chosen completely duo to data availability. Further research might explore other airlines that this thesis could not find the proper data for them especially in USA and Latin American countries that almost there are not any researches about them.

The long-run relationship and causality between business conditions and financial performance of tourism firms may be fundamentally different from country to country. So it is possible that some different approachs discover for other countries.

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