

THE EUROPEAN TOURISM INDUSTRY IN CRISIS: A STOCK MARKET PERSPECTIVE

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This article aims to evaluate the market performance of the European tourism industry from 2004 to 2014, a period that includes the financial and economic crises, to highlight which macroeconomic factors influenced the industry stock returns. The Stoxx Europe 600 Travel & Leisure price index is used to proxy the industry stock performance, and a multifactor market model is employed to individuate which macroeconomic variables are able to drive tourism stock performance. Results highlight that tourism stock performance is influenced by market conditions and by uncertainty, measured through the Chicago Board Options Exchange Volatility index (VIX). Despite the importance of tourism in Europe and its contribution to the economic growth, there is scant evidence on the performance of this industry in this area and on its relationship with economic conditions. The article, to the best of knowledge, represents the first contribution on the performance of European tourism industry in crisis years with a macroeconomic perspective.

Key words: Stock performance; Tourism industry; Crisis; Europe

Introduction

Tourism is considered a fundamental component of economic growth (Anwar & Valadkhani, 2013; R. J. C. Chen, 2011; De La Vlina, Hollas, Merrifield, & Ford, 1994), able to spur job creation, especially in emerging markets (Zafar & Bharat, 1996), and national product [World Travel and Tourism Council (WTTC), 2015a]. Over the latest 60 years, tourism

has been acknowledged as one of the largest and fastest-growing economic sectors in the world [reaching 9% of the world gross domestic product (GDP)] and is believed to be experiencing continued expansion [United Nations World Tourism Organization (UNWTO), 2014a].

Europe is the most visited region in the world (UNWTO, 2014a) despite the challenges set by the economic and financial crises, and the industry

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is believed to continue growing at a rate of 2.3% each year in the period between 2010 and 2030 (UNWTO, 2014b). Among the areas in the continent, the Southern Mediterranean and Central and Eastern Europe recorded the highest results in 2013, with the first being an established destination and the latter receiving growing attention since 2013 (UNWTO, 2014b); for example, tourism is the first economic activity in Spain, a country that was severely affected by the economic crisis (UNWTO, 2014b).

In this scenario, tourism activities can be a key factor to redirect the European economic trend, stimulating growth, increasing employment and efficiency, and working as a driver for economic recovery. Nevertheless, the industry is exposed to several macroeconomic common risk factors, and the effect of these factors can be read in relation to the returns of tourism listed companies. The aim of this article is to evaluate whether macroeconomic indicators and industry characteristics affected the performance of the European tourism industry during the latest financial crisis that began in 2007–2008 and the following economic crisis that severely affected the European countries. Despite the importance of tourism and tourist activities in the European area, there is scant evidence on the performance of tourism companies and on the relationship between macroeconomic shocks and performance. This study fills a gap in the literature and contributes to it by providing the first insight on the performance of European tourism industry in recent years with a macroeconomic perspective. The article provides empirical evidence that can be helpful in the design of economic policies aimed at developing this industry.

The article is organized as follows. The next section gives an overview of the latest trends in Europe and evidence on past performance of the exchange

listed tourism companies; the third section provides a literature review of the most relevant contribution on the specific topic of this article; the fourth section presents the data and the methodology; the fifth section discusses the results; and the last section presents conclusions.

The Tourism Industry Stock Performance in Europe

According to UNWTO (2014a) over the past 60 years, tourism has been one of the largest and fastest growing economic sectors in the world (9% of the world GDP) and an important driver of GDP growth and job creation (Jaforullah, 2015; WTTC, 2015a).

The industry, despite the challenges set by the economic and financial crises, contributed heavily to GDP in the European area. In 2014, the total contribution of travel and tourism to GDP was US\$2,136 billion (9.2% of GDP), with a direct contribution to GDP in Europe of US\$779.7 billion (3.4% of total GDP). Travel and tourism in Europe directly supported 13,975,000 jobs (3.6% of total employment), with a total indirect contribution to employment of 9.0% of total employment (35,214,000 jobs). Leisure travel spending was 77.7% of direct travel and tourism GDP in 2014 (US\$1,344.6 billion), and 67.2% of direct travel and tourism GDP was domestic travel spending (WTTC, 2015b).

Observing the Stoxx Europe 600 Travel & Leisure index performance, which describes the behavior of tourism stocks listed in Europe, it can be seen that overall the index had a better performance in terms of annualized returns than the overall market (Stoxx Europe 600), although with a higher volatility of returns (see Table 1).

Table 1
Descriptive Statistics on Tourism and Market Returns

Index	Average Annualized Return (%)	Annualized Standard Deviation (%)
Stoxx Europe 600 Travel & Leisure	4.47	17.12
Stoxx Europe 600	3.33	15.26
S&P 500	5.63	15.26

Note. Values were obtained through authors' elaboration from Datastream.

Figure 1 shows the behavior of 100 euros invested by index in 2004–2014. Despite the travel index staying below the market index during most of the periods, it has recovered quicker since 2013. Looking at the whole period, both indexes had in the long run a positive performance, with the Travel and Leisure index reaching a value of 138 euros and the Stoxx Europe 600 reaching around 126 euros. As a reference, the pattern of S&P 500 is also included. The latter has a different behavior and shows a better recovery, especially after 2011.

The impact of the 2007–2008 crisis is evident in the figure, and the indexes have a drop in value from around 170 in mid-2007 to around 60 for both indexes in the first quarter of 2009, when they start a slow recovery, although they do not reach the peak of the 2007 figures.

Previous Studies on Tourism Stock Performance

Previous studies on tourism stock performance show how the performance of the industry is exposed to economic conditions. The literature investigates how the performance of tourism companies (generally defined as companies operating in the travel and leisure industry) reacts to changes in economic growth or monetary conditions. Nevertheless, the empirical evidence on the stock performance of

tourism companies is limited to very few studies, which focus on specific geographical areas.

A first strand of literature analyzes performance in relation to macroeconomic factors. Among the first studies, Barrows and Naka (1994) employed five macroeconomic variables (expected inflation rate, money supply, domestic consumption, term structure of interest rate, and industrial production) to study the behavior of hospitality stocks for 21 US companies from 1965 to 1991. M. H. Chen, Kim, and Kim (2005) studied hotel stocks in Taiwan for 14 years (1989–2003) and the impact of macroeconomic variables, and they found that returns are mainly influenced by money supply and unemployment rate, also controlling for political events, wars, terrorist attacks, or diseases. These events can, in fact, affect the willingness to choose a given country as a destination and hence negatively affect the revenue of the tourism industry [see, among others, Genc, Miller, & Gursoy, 2006, for the effects of 9/11 on airlines profitability, and Saleh, Verma, & Ihalanayake, 2011, for the effects of external shocks such as severe acute respiratory syndrome (SARS) on Thailand]. Four Taiwanese tourism stocks from 1989 to 2005 were investigated by M. H. Chen (2007), who found that money supply and hotel stocks have a positive relationship, but the strength and type of relationship depend



Figure 1. Growth of 100 euros invested from January 1, 2004 to December 31, 2014. Source: authors' elaboration from Datastream.

on the monetary conditions. For the same market, M. H. Chen (2010) argued that the real GDP growth explains performance of tourism industry slightly better than the growth rate of total foreign tourist arrivals. M. H. Chen and Kim (2010) evaluated the effect of an increased tourism spending on tourism-related firms and found that expenses have a more direct impact on firms' earnings rather than on stock performance; in a similar fashion, M. H. Chen (2011) found that international tourism development has a higher effect on accounting measures rather than on stock performance.

The relevance of macroeconomic risk factors is also highlighted by the work of Chan and Lim (2011), who studied the performance of six listed companies located in New Zealand and found that, in general, companies' returns are affected by macroeconomic indicators, such as the money supply and exchange rates, but also by tourist arrivals.

The importance of the monetary policy was evaluated by M. H. Chen (2012), who found that the shifts in the discount rate and in federal funds rate in the US affect tourism performance, although with different strength depending on the economic cycle.

Among macroeconomic risk factors, oil shocks can also affect tourism profitability. Becken (2011) and Becken and Lennox (2012) maintained that higher costs of energy have a negative impact on travel and leisure activities, not only affecting the costs of the sector but also influencing income of travelers who reduce tourism activities, thus reducing the industry revenues. More recently, Chatziantoniou, Filis, Eeckels, and Apostolakis (2013) investigated the impact of oil shocks on tourism income and profitability for Mediterranean countries and found that the impact of oil specific demand shocks affects the tourism sector equity index and also has a lagged effect on accounting measures and profitability.

An innovative approach was taken by Huang and Chang (2013), who found that Taiwanese tourism stock returns can be predicted with a high level of accuracy using a back-propagation neural network and selected 29 input variables, including international exchange rate, indices of international stock markets, indicator of Taiwan stock market analysis, and overall economic indicators.

A second line of research, instead, focuses on the reaction of stock prices to specific events. This line lies outside the scope of this research, and few

recent studies are briefly cited here. M. H. Chen (2012) studied the effects of Fed announcements on hospitality stock prices and found that markets are overall efficient and able to anticipate the expected effect of the announcement; more recently, M. H. Chen (2013) showed that travel and leisure stock returns react to monetary policy surprises, with the reaction being stronger during bear markets.

Johnson, Singh, and Ma (2014) also focused on the effect of a specific event on the abnormal hotel firm stock returns using an event study for the Travel Promotion Act (TPA) that entered into effect in 2010. The authors found that this measure introduced to promote advertising and academic and business travel to the US had positive effects on hotel performance.

This study fits in the first stream of literature that studies the stock performance of tourism companies and its relation to macroeconomic variables, but it departs from most of the previous empirical contributions by analyzing the stock performance of travel and leisure companies in a European framework for a period of turbulence in the economic conditions, which might shed light on how tourism companies' performance reacts to severe crises. Moreover, the article focuses on Europe, an area where the tourism industry represents a key driver to economic growth (UNWTO, 2014b), which has not been studied extensively compared to other areas. Finally, it employs an industry index that enables us to proxy the performance of the industry in a synthetic way and includes factors that are not taken into consideration by most of the studies—that is, the overall spending in travel and leisure activities and the importance of tourism relative to the overall domestic product.

Data and Methodology

To analyze the stock performance of the European tourism industry and the impact of macroeconomic variables, a well-established model in corporate finance is employed—that is, the multi-factor market model, an extension of Capital Asset Pricing Model (CAPM) (Fama & French, 1993, 1996; Sharpe, 1964). In the financial theory, the returns of any stock or index can be determined according to the CAPM, which states that the excess return of a given security i over the risk free rate ($R_{i,t}$) is determined by the excess return of the market ($R_{M,t}$)

and by the sensitivity of any stock to the market, proxy by the beta (β), which in more rigorous terms is defined as the covariance between the returns of the stock and the market divided by the variance of the market returns (Fama & French, 1993, 1996; Sharpe, 1964). The usual representation of the model is as follows:

$$R_{i,t} = \alpha_i + \beta_i R_{M,t} + e_t, \quad (1)$$

where $R_{i,t}$ is the excess return of any stock i , $R_{M,t}$ is the excess market return, α is the intercept, and β is the coefficient described above.

Multifactor market model is an extension of CAPM, where other factors able to proxy the risks on the markets are considered together with the excess market return. Typically, the other risk factors are chosen according to three approaches: the macroeconomic, the fundamental, and the statistical approach.

Equation 1 takes hence the following form:

$$R_{i,t} = \alpha_i + \sum_{j=1}^J \beta_j F_{j,t} + e_t, \text{ with } j = 1 \dots J \quad (2)$$

J and $t = 1 \dots T$,

where F_j represents the various risk factors used to explain stock returns.

Despite referring to a theoretical framework that roots in the 1960s, this model has been employed extensively in the years, and, more specifically, it has been adopted by recent literature to explain the returns of various industries, such as energy companies (Baldi, Peri, & Vandone, 2014; Ramos & Veiga, 2011), utilities (Mo, Zhu, & Fan, 2012), and the paper industry (Sadorsky & Henriques, 2001).

In the article, a macroeconomic approach is adopted by selecting the macroeconomic variables that can influence stock performance (Bodie, Kane, & Marcus, 2010) of the tourism industry. Macroeconomic variables show a relationship with stock returns, as maintained by N. F. Chen, Roll, and Ross (1986); Fama and French (1988); and Jensen, Mercer, and Johnson (1996); as well as by M. H. Chen (2011) with reference to the hotel industry.

The model employed in the analysis of tourism stock performance takes hence the following form:

$$R_{i,t} = \alpha_i + \beta_M R_{M,t} + \beta_{VIX} VIX_t + \beta_{GEA} GEA_t + \beta_{UN} UN_t + \beta_{M2} M2_t + \beta_{OIL} OIL_t + e_t, \text{ with } \quad (3)$$

$t = 1 \dots T$,

where:

- R_{Tt} represents the monthly excess return of the Stoxx Europe 600 Travel & Leisure price index; it is the most relevant index available for the European area, a capitalization weighted index that includes European companies that are involved in the travel and leisure sector (according to the definition provided by Bloomberg).
- R_{Mt} represents the monthly excess market return. Market return over the risk-free rate should be one of the main drivers of tourism stock returns because the industry is generally believed to be cyclical; hence, it is expected to have a positive coefficient. In this study, the Stoxx Europe 600 is employed. As an alternative and considering that tourism in a given region might be affected by global market conditions, which affect international travelers, the S&P 500 price index is also employed.
- VIX_t represents the Chicago Board Options Exchange Volatility index (VIX) to measure expected volatility of the S&P 500 index. It is also used as a proxy for uncertainty on the markets and has a relationship with monetary conditions (Bekaert, Hoerova, & Duca, 2013; Whaley, 2000).
- GEA_t represents the Global Economic Activity index by Kilian (2009). It is a proxy for the economic cycle, and it should have a positive coefficient because in periods of booms, consumers should have more wealth that can be used for travel and leisure activities as well as business travels. The opposite should happen during economic downturns.
- UN_t represents the unemployment rate. It provides insight on the employment capacity of the economy (M. H. Chen et al., 2005). As it is well known, during downturns, unemployment rate rises, and this might force consumers to cut spending. One example might be spending for travel and leisure activities for the mechanism just described for the production index. Consumers and companies might therefore have to reduce the amount spent for travel for leisure or business purposes, reducing the length of holidays, modifying travel behavior, or giving up travel and leisure activities. Hence, the coefficient should be negative.
- $M2_t$ represents the natural logarithm of the money supply, defined as M2 or “money and quasi

money” (according to the definition available at <http://data.worldbank.org/>, M2 comprises the sum of currency outside banks; demand deposits other than those of the central government; and the time, savings, and foreign currency deposits of resident sectors other than the central government). Several studies found a positive relationship between availability of money and stock returns (Campbell, 1987; Kaul, 1987; Rozeff, 1984) and, more specifically, between tourism and leisure stock returns (Barrows & Naka, 1994; M. H. Chen, 2007), although the strength of reaction in case of unexpected monetary policies differs according to the bear or bull market (M. H. Chen, 2013).

- OIL_t represents oil prices that influence tourism activities, given the fact that they make heavy use of energy, and changes in energy prices are likely to affect profitability (Chatziantoniou et al., 2013).
- e represents the error term, and s are the coefficients.

Descriptive statistics for the independent variables are reported in Tables 2 and 3. The time span of the analysis is from January 1, 2004, to December 31, 2014. Daily time series to compute monthly returns for price indexes are obtained through Datastream, whereas macroeconomic variables and tourism indicators from January 2004 to December 2014 are obtained on monthly basis from the World Bank Database, Eurostat, the World Travel and Tourism Council (WTTC), and the European Central Bank.

Given that the sample period includes the financial and economic crises, in additional specification, the model controls for the two periods through two dummies. The dummy *financial crisis* takes a value of 1 for the months between August 2007 and December 2009, and zero otherwise, whereas the dummy *sovereign debt crisis* identifies the period starting from January 2010 to the still ongoing European economic crisis.

Results

Results are presented in Table 4. The full model (Equation 3) results are presented in column A.

Table 2
Main Descriptive Statistics of Dependent and Independent Variables ($N = 131$)

Variable	<i>M</i>	<i>Mdn</i>	<i>SD</i>
RT (%)	-1.363	-0.520	7.066
RM—Eurostoxx 600 (%)	-1.621	-0.980	6.185
RM—S&P 500 (%)	-1.421	-0.910	5.085
VIX (%)	-0.002	-0.030	0.187
GEA	15.851	21.451	29.047
UN	9.108	9.300	1.214
M2	15.840	15.915	0.179
OIL (%)	0.007	0.015	0.086

Note. Values were obtained through authors' elaboration from Datastream. RT = monthly excess return of the Stoxx Europe 600 Travel & Leisure price index; RM = monthly excess return of the market return; VIX = index return for the Chicago Board Options Exchange Volatility index; GEA = Global Economic Activity index; UN = unemployment rate; M2 = natural logarithm of the aggregate for the money supply; OIL = index return for the S&P GSCI energy index.

Column B presents the same model controlling also for the dummies identifying the crisis years. Overall results show that the main determinant of tourism stock returns is represented by the market conditions and uncertainty (measured as volatility in future prices). In a period of growing market stock prices, the stock prices of travel and leisure companies have a positive return, and this confirms the cyclical nature of the industry. Nevertheless, the value is lower than one, meaning that the travel and leisure industry reacts less than proportionally to changes in the market returns. The volatility (measured by the VIX index) has a negative and significant effect on tourism stock prices. During a period of high volatility, returns diminish, whereas the opposite happens during a period of low volatility.

Given the behavior of the index since 2004 with respect to the overall market measured by Eurostoxx 600 (see Fig. 1), the regression is run also separately differentiating between the crisis and noncrisis years (see columns C and D in Table 4). Evidence highlights a higher sensitivity to market stock prices during the crisis years (with a coefficient of around 0.84) compared to the noncrisis (the coefficient is around 0.75). The effect of the returns of the VIX index instead has an opposite direction, as follows: during normal times, the effect is

Table 3
Monthly Means Evolution of Dependent and Independent Variables

	RT (%)	RM—Eurostoxx 600 (%)	RM—S&P 500 (%)	VIX (%)	GEA	UN	M2	OIL (%)
2004	0.750	-0.738	-1.364	-2.667	40.745	9.217	15.503	2.027
2005	-1.593	-1.657	-1.939	-0.833	29.488	8.967	15.581	3.316
2006	-0.504	-0.880	-2.015	-0.417	27.248	8.183	15.667	-0.807
2007	-5.099	-3.413	-3.989	5.500	51.712	7.192	15.764	3.552
2008	-9.697	-10.117	-8.800	4.833	34.736	7.033	15.863	-6.507
2009	0.340	1.036	0.643	-5.167	18.769	8.925	15.914	4.856
2010	0.701	-0.727	0.192	-1.667	25.144	9.583	15.934	1.133
2011	-3.553	-2.633	-1.392	2.500	0.398	9.642	15.957	0.699
2012	2.057	0.604	0.476	-2.083	-27.687	10.467	15.992	-0.134
2013	2.259	1.416	1.942	-2.333	-14.582	10.833	16.029	0.330
2014	0.147	-0.635	0.797	-0.273	-14.108	10.236	16.054	-1.100

Note. Values were obtained through authors' elaboration from Datastream. RT = monthly excess return of the Stoxx Europe 600 Travel & Leisure price index; RM = monthly excess return of the market return; VIX = index return for the Chicago Board Options Exchange Volatility index; GEA = Global Economic Activity index; UN = unemployment rate; M2 = natural logarithm of the aggregate for the money supply; OIL = index return for the S&P GSCI energy index.

stronger, whereas during crisis, the negative effect is slightly lower, everything else equal.

The other variables seem not to have a statistical (or economic) significant effect on tourism stock index returns, apart from unemployment, which has

a small positive effect on returns, although only weak and that disappears when controlling for the crisis dummies.

Adjusted R^2 shows a fairly high fit with the linear model, around 82%. With reference to the diagnostics

Table 4
Regression Results

Variable	RM: Eurostoxx 600				RM: S&P 500	
	A	B	C (Crisis = 0)	D (Crisis = 1)	E	F
Constant	24.897	-32.021	273.121	12.792	103.024**	67.520
RM	0.838**	0.819**	0.746**	0.843**	1.238**	1.232**
GEA	-0.009	-0.005	-0.016	-0.004	-0.042*	-0.040
OIL	-4.213	-3.864	0.822	-7.189	2.887	2.987
VIX	-8.271**	-8.817**	-9.785**	-8.688**		
UN	0.609*	0.504	-1.933	0.789	-0.480	-0.414
M2	-1.913	1.792	-16.408	-1.267	-6.163**	-3.925
Financial crisis		-1.653				-0.681
Sovereign debt crisis		-1.190				-0.954
Observed	131	131	43	88	131	131
Adjusted R^2	0.825	0.824	0.650	0.841	0.780	0.777
Breusch-Pagan/Cook-Weisberg test for heteroscedasticity	$p = 0.887$	$p = 0.978$	$p = 0.684$	$p = 0.858$		
Ramsey reset test	$p = 0.454$	$p = 0.546$	$p = 0.651$	$p = 0.627$		
Durbin's test for autocorrelation	$p = 0.063$	$p = 0.042$	$p = 0.229$	$p = 0.114$		

Note. Values were obtained through authors' elaboration from Datastream. Regression diagnostics are omitted for Models E and F because these are run with robust standard errors because of suspect heteroskedasticity. RM = monthly excess return of the market return; GEA = Global Economic Activity index; OIL = index return for the S&P GSCI energy index; VIX = index return for the Chicago Board Options Exchange Volatility index; UN = unemployment rate; M2 = natural logarithm of the aggregate for the money supply; financial crisis = a dummy equal to 1 for the months of the financial crisis and 0 otherwise; sovereign debt crisis = a dummy equal to 1 for the months of the European sovereign debt and European economic crisis.

* $p < 0.10$. ** $p < 0.01$.

tests reported in Table 4, overall the regressions satisfy the assumptions of no heteroskedasticity, no omitted variables, and no serial correlation with a 5% confidence level, with the exception of the Durbin's test for autocorrelation for Model B, which is nevertheless rejected at 1% level.

The basic set of regression is also run using the returns of the S&P 500 index as proxy for market return (RM). Results remain similar, although the coefficient for the market return is higher than the one obtained when using the European stock market index, suggesting that the European tourism index reacts more than proportionally to changes in the overall market returns. The coefficient remains very similar also when including the crisis dummies. The other variables do not have statistical significance except for the Global Economic Activity (GEA) index and the money supply. The first takes a negative but slightly significant sign in Model E, and the latter shows high statistical significance in the same model, contrary to expectations. Both effects disappear when including the dummies for the crisis periods in Model F.

Additional analyses are performed starting from the basic models and excluding nonsignificant variables one at a time. Evidence provides similar results that are omitted.

Concluding Remarks

The tourism industry represents a fundamental component of the economic growth (De La Vlina et al., 1994; WTTC, 2015a), but given its cyclical, its trends are likely to be influenced by the overall economic situation. European tourism has always represented an important key tool to foster the growth during normal times, but it has also shown ability to quickly recover from the last crisis (UNWTO, 2014b). Despite the key role of this industry in Europe, the tourism industry has not received sufficient attention in the past by the literature compared to its pivotal role in the area and its growing contribution to the growth of the European economy, which is even more evident compared to the serious and disrupting financial and economic crises that hit the global economy. In fact, there is scant evidence on the determinants of tourism stock performance that considers a set of macroeconomic variable, considers a recent time period, and takes

a European perspective. This study fills this gap in the literature by evaluating the performance of the tourism sector and the macroeconomic factors that influence its stock returns, making use of a synthetic index for the industry performance and making use of a recent data set built from different sources. The proxy for the tourism industry is the Stoxx Europe 600 Travel & Leisure price index, regressions of several macroeconomic factors, and the market return on the index monthly excess return.

Main results show that travel and leisure stock performance appears to be influenced by the market, as expected, but also by the volatility of the market, measured by the returns on the VIX index. During more turbulent times, travel and leisure stock performance lowers because of more uncertainty. Reaction to overall market conditions and uncertainty vary over time, with the first increasing during the crisis years. The other macroeconomic variables traditionally identified by the literature do not seem to produce any significant effect on the stock returns of tourism companies' index return. Results might be heavily influenced by the peculiar time period analyzed that include the most severe financial crisis since 1929 and the following European economic crisis. These results do not seem to support the effectiveness of policy tools (such as monetary conditions) to favor the growth of the industry in terms of stock performance. It might be, nevertheless, that this tools are effective in boosting employment in the industry or sales growth, or they might have effect only after a long time period, especially considering the heavy economic recession that the industry and the whole economy are living nowadays. Hence, given the relevance of the tourism sector for the economic growth and recovery, understanding how the industry reacts to macroeconomic shocks and how its performance is linked to the overall economic conditions are also key topics from a policy maker perspective, and further research might include other performance measures. Provided that the industry can be a key driver in the growth of the economy, specific policies dedicated to travel and leisure should be delivered to foster the growth of the industry. Further research might clarify how the industry will perform on a long-term perspective and whether other risk factors during the recovery from the global crises are able to drive this performance.

References

- Anwar, S., & Valadkhani, A. (2013). Tourism and the services sector growth in Singapore. *Tourism Analysis*, *18*(1), 103–109.
- Baldi, L., Peri, M., & Vandone, D. (2014). Clean energy industries and rare earth materials: Economic and financial issues. *Energy Policy*, *66*, 53–61.
- Barrows, C. W., & Naka, A. (1994). Use of macroeconomic variables to evaluate selected hospitality stock returns in the US. *International Journal of Hospitality Management*, *13*(2), 119–128.
- Becken, S. (2011). Oil, the global economy and tourism. *Tourism Review*, *66*, 65–72.
- Becken, S., & Lennox, J. (2012). Implications of a long-term increase in oil prices for tourism. *Tourism Management*, *33*, 133–142.
- Bekaert, G., Hoerova, M., & Duca, M. L. (2013). Risk, uncertainty and monetary policy. *Journal of Monetary Economics*, *60*(7), 771–788.
- Bodie, Z., Kane, A., & Marcus, A. J. (2010). *Essentials of investments* (8th ed.). New York, NY: McGraw Hill.
- Campbell, J. Y. (1987). Stock returns and the term structure. *Journal of Financial Economics*, *18*(2), 373–399.
- Chan, F., & Lim, C. (2011). *Tourism stock performance and macro factors*. Retrieved from <http://www.mssanz.org.au/modsim2011/D9/chan.pdf>
- Chatziantoniou, I., Filis, G., Eeckels, B., & Apostolakis, A. (2013). Oil prices, tourism income and economic growth: A structural VAR approach for European Mediterranean countries. *Tourism Management*, *36*, 331–341.
- Chen, M. H. (2007). Hotel stock performance and monetary conditions. *International Journal of Hospitality Management*, *26*(3), 588–602.
- Chen, M. H. (2010). The economy, tourism growth and corporate performance in the Taiwanese hotel industry. *Tourism Management*, *31*(5), 665–675.
- Chen, M. H. (2011). The response of hotel performance to international tourism development and crisis events. *International Journal of Hospitality Management*, *30*(1), 200–212.
- Chen, M. H. (2012). The reaction of US hospitality stock prices to Fed policy announcements. *International Journal of Hospitality Management*, *31*(2), 395–398.
- Chen, M. H. (2013). Asymmetric response of hospitality stock prices to Fed policy actions. *International Journal of Hospitality Management*, *33*, 129–139.
- Chen, M. H., & Kim, H. J. (2010). Tourism expansion and corporate earnings in the tourism industry. *The Service Industries Journal*, *30*(6), 947–964.
- Chen, M. H., Kim, W. G., & Kim, H. J. (2005). The impact of macroeconomic and non-macroeconomic forces on hotel stock returns. *International Journal of Hospitality Management*, *24*(2), 243–258.
- Chen, N. F., Roll, R., & Ross, S. A. (1986). Economic forces and the stock market. *Journal of Business*, *59*(3), 383–403.
- Chen, R. J. C. (2011). Impacts of international tourism on economies in the Asia-Pacific region: Opportunities and challenges. *Tourism Analysis*, *16*(4), 499–503.
- De La Vlina, L. Y., Hollas, D., Merrifield, J., & Ford, J. (1994). A principal components-based tourism activity index. *Journal of Travel Research*, *32*(4), 37–40.
- Fama, E. F., & French, K. R. (1988). Dividend yields and expected stock returns. *Journal of Financial Economics*, *22*(1), 3–25.
- Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, *33*(1), 3–56.
- Fama, E. F., & French, K. R. (1996). Multifactor explanations of asset pricing anomalies. *The Journal of Finance*, *51*(1), 55–84.
- Genc, I. H., Miller, J. R., & Gursoy, D. (2006). The macroeconomic environment and airline profitability: A study of us regional airlines. *Tourism Analysis*, *11*(6), 381–395.
- Huang, H. C., & Chang, F. W. (2013). A prediction model for Taiwan tourism industry stock index. *International Journal of Computer Science & Information Technology*, *5*(6), 113.
- Jaforullah, M. (2015). International tourism and economic growth in New Zealand. *Tourism Analysis*, *20*(4), 413–418.
- Jensen, G. R., Mercer, J. M., & Johnson, R. R. (1996). Business conditions, monetary policy, and expected security returns. *Journal of Financial Economics*, *40*(2), 213–237.
- Johnson, M., Singh, A. J., & Ma, Q. (2014). The impact of authorization of the Travel Promotion Act on hotel firm stock returns. *Cornell Hospitality Quarterly*, *56*(1), 29–40.
- Kaul, G. (1987). Stock returns and inflation: The role of the monetary sector. *Journal of Financial Economics*, *18*(2), 253–276.
- Kilian, L. (2009). Not all oil price shocks are alike: Disentangling demand and supply shocks in the crude oil market. *American Economic Review*, *99*(3), 1053–1069.
- Mo, L. J., Zhu, L., & Fan, Y. (2012). The impact of the EU ETS on the corporate value of European electricity corporations. *Energy*, *45*(1), 3–11.
- Ramos, S. B., & Veiga, H. (2011). Risk factors in oil and gas industry returns: International evidence. *Energy Economics*, *33*, 525–542.
- Rozeff, M. S. (1984). Dividend yields are equity risk premiums. *Journal of Portfolio Management*, *11*(1), 68–75.
- Sadorsky, P., & Henriques, I. (2001). Multi-factor risk and the stock returns of Canadian paper and forest products companies. *Forest Policy and Economics*, *3*(3–4), 199–208.
- Saleh, A. S., Verma, R., & Ihalanayake, R. (2011). Do external shocks have a permanent or a transitory effect on Thailand's tourism industry? *Tourism Analysis*, *16*(4), 483–491.

- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, 19(3), 425–442.
- United Nations World Tourism Organization. (2014a). *Annual report 2013*. Madrid, Spain: Author.
- United Nations World Tourism Organization. (2014b). *Working together in Europe—A shared leadership*. Madrid, Spain: Author.
- Whaley, R. E. (2000). The investor fear gauge. *Journal of Portfolio Management*, 26(3), 12–17.
- World Travel and Tourism Council. (2015a). *Economic impact of travel and tourism: 2015 annual update summary*. London, UK: Author.
- World Travel and Tourism Council. (2015b). *Economic impact of travel and tourism: 2015 annual update: Europe*. London, UK: Author.
- Zafar, A. U., & Bharat, J. (1996). Economic liberalization in India: Opportunities for multinational corporations in the hospitality and tourism sector. *Tourism Economics*, 2(2), 159–172.