Investigating the Effects of Monetary Policy, Sentiment, and Economic Conditions on Tourism Stock Performance

Farid Irani

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

Doctor of Philosophy
in
Finance

Eastern Mediterranean University
September 2021
Gazimağusa, North Cyprus

Approval of the Institute of Graduate Studies and Research

Prof. Dr. Ali Hakan Ulusoy
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Doctor of Philosophy in Finance.

Prof. Dr. Nesrin Özataç
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 Doctor of Philosophy in Finance.

Assoc. Prof. Dr. Korhan Gökmenoğlu Karakaya
Co-Supervisor

Prof. Dr. Salih Katircioğlu
Supervisor

Examining Committee

1. Prof. Dr. Murat Donduran
2. Prof. Dr. Fazıl Gökgöz
3. Prof. Dr. Salih Katircioğlu
4. Assoc. Prof. Dr. Setareh Katircioğlu
5. Asst. Prof. Dr. Nigar Taşpınar

ABSTRACT

This thesis examines the roles of monetary policy, sentiment, and economic conditions (business and financial) on tourism stocks' performance. The thesis is divided into three chapters to reach this aim. In chapter 2, the role of sentiment and monetary policy (both domestic and the United States (US)) in explaining the changes in the Mexican tourism firms' stock returns. Empirical findings reveal that the changes in Mexican consumer sentiment have a stronger positive effect on tourism firms' stock returns than Mexican business sentiment changes. However, the US consumer and business sentiment are irrelevant to tourism firms' stock returns.

Moreover, our results indicate that changes in the US interest rates positively influence Mexican tourism firms' stock returns. Chapter 3 examines the long-term links between business conditions, financial development, and tourism growth in major tourist destination countries selected in this study. The long-run estimation underscores that business and finance environments are significant drivers of stock price movements in this industry. Moreover, the results show that the most significant factor that explains changes in the tourism stock price is foreign tourist arrivals, indicating that the tourism stock price of major tourist countries is relatively more sensitive to changes in tourist arrivals to the country than other factors. Chapter 4 investigate the role of economic sentiment and economic policy uncertainty (both domestic and European) in explaining the changes in the contemporaneous and future travel and leisure stock index returns in top European Union tourism destinations. Empirical results reveal that the changes in regional economic sentiments predominantly and positively affected hospitality stock index returns in France and Spain, while the money supply is the

primary driver in the UK. Also, our findings indicate that changes in regional economic sentiment in Spain and the United Kingdom significantly influence future hospitality stock index returns. In addition, regional economic policy uncertainty has a moderate negative influence on future stock index returns in France.

Keywords: Sentiment, Monetary Policy, Financial Performance, Business Conditions, Economic Policy Uncertainty, Stock Returns.

ÖZ

Bu çalışma para politikası, tüketici duyarlılığı, ve ekonomik, iş, ve finansal koşulların turizm hisse senedi performansları üzerindeki rollerini incelemektedir. Bu amaçla, çalışma 3 temel bölümde yürütülmüştür. Giriş bölümünden sonra, ikinci bölümde, tüketici duyarlılığı ile para politikalarının Meksika örneğinde turizm firmalarının hisse senedi getirilerine olan etkisi irdelenmiştir. Bu bölümdeki sonuçlara göre, Meksika'da tüketici hassasiyetlerinin hisse senedi getirilerine olan etkisi hem doğru yönlü hem de iş çevresi hassasiyetlerinden daha yüksek olduğu ortaya çıkmaktadır. Fakat, örneğin, Amerika Birleşik Devletleri (ABD)'ndeki tüketici ve iş çevresi duyarlılığı, Meksika'daki turizm hisse senedi getirileri ile pek ilişkili çıkmamıştır. Diğer taraftan, ABD faiz oranlarındaki değişimlerin Meksika turizm hisse senedi getirilerine doğrudan etki ettiği ortaya çıkarılmıştır. Üçüncü bölümde, en fazla turist çeken ülkelerde, iş çevresi koşulları, finansal büyüme, ve turizm hisse senedi getirileri arasındaki ilişki irdelenmiştir. Çıkan sonuçlar, iş çevresi koşulları ile finansal büyümenin turizm hisse senedi fiyat değişimlerinin tetikleyicileri olduğu yönündedir. Bulunan sonuçlar, turizm hisse senedi getirilerinin en önemli belirleyicisinin turist akışlarının olduğunu ortaya koymuştur. Dördüncü bölümde ise, en fazla turist çeken Avrupa Birliği ülkelerinde, iktisadi duyarlılık ve iktisat politikası belirsizliğinin seyahat ve dinlence şirketlerinin hisse senedi getirilerine olan etkileri irdelenmiştir. Bulunan sonuçlara göre, örneğin Fransa ve İspanya'da, bölgesel iktisadi duyarlılığın baskın şekilde ve doğrudan hisse senedi getirilerini etkilediği görülmüştür. Fakat, İngiltere örneğinde, hisse senedi getirilerinin temel belirleyicisinin para arzı değişimleri olduğu bulunmuştur. Bulgulara göre, İspanya ve İngiltere'de bölgesel iktisadi duyarlılığın gelecektedi hisse senedi getirilerini etkilediği görülmüştür. Ek

olarak, Fransa örneğinde, bölgesel iktisat politikası belirsizliklerinin gelecek hisse senedi getirilerine olan etkisinin ılımlı fakat ters yönde olduğı bulunmuştur.

Anahtar Kelimeler: Duyarlılık, Para Politikası, Finansal Performans, İş Koşulları, İktisat Politikası Belirsizliği, Hisse Senedi Getirileri.

DEDICATION

TO MY MOM AND DAD

ACKNOWLEDGMENT

I would like to thank my supervisor Prof. Dr. Salih Katırcıoğlu, and my co-supervisor Assoc. Prof. Dr. Korhan Gökmenoğlu for their continuous guidance and support in the preparation of this thesis. Without their invaluable supervision, it would be impossible to accomplish my target on time.

I would like to dedicate this thesis to my family members, my brothers, and Uncle Sam for their invaluable support throughout my life. In addition, I owe quite a lot to Mom and Dad for their support and efforts helping during the most challenging time of my Ph.D. I am grateful for everything you have done for me! You are treasures in my life.

Furthermore, I would like to thank my friends for their endless support and encouragement in every stage of my studies. Without their continuous support, it would not be possible to overcome the most difficult times during my studies.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVATIONS

CPI	Consumer Price Index
DC	Credit to Private Sector
DEPU	Domestic Economic Uncertainty Policy
DESI	Domestic Economic Sentiment
DIFINF	Differential Inflation Rate
DIFINT	Differential Interest Rate
EXR	Exchange Rate
GDP	Gross Domestic Price
GFC	Financial Crises
GFC	Gross Capital Formation
IP	Industrial Production
M2	Money Supply
MABCI	Mexican Business Confidence Index
MACCI	Mexican Consumer Confidence Index
USBCI	US Business Confidence Index
USCCI	US Consumer Confidence Index
TSI	Tourism Stock Price Index
MAOIR	Mexican Overnight Interbank Interest Rate
MR	Stock Market Return
T&LSR	Travel and Leisure Stock Index Returns
TA	Tourist Arrivals'
TSR	Tourism Firms Stock Returns
UEPU	European Economic Uncertainty Policy

UESI	European Economic Sentiment
USFDR	US Federal Fund Rate
USTS	US Tourist Arrivals
USVIX	US Stock Market Volatility

Chapter 1

INTRODUCTION

1.1 Research Background

Many nations heavily rely on expanding the tourist sector for financial benefit (Tohmo, 2018; Faber and Gaubert, 2019). Tourism accounts for 319 million employment and 10.4% of global GDP, according to the World Travel and Tourism Council report (WTTC) (2019). Similarly, the tourist industry is critical to stimulating financial growth by boosting foreign exchange income, implementing new techniques, attracting investors to new infrastructure, providing new job opportunities, and supporting industrial development (McKinnon, 1964; Blake, Sinclair and Soria, 2006). Therefore, understanding the elements that influence the performance of the tourist stock is critical for policymakers and managers of the tourism industry since it enables the creation of a conducive environment for tourism growth. The primary goal of this study is to investigate the effect of monetary policy on the stock price of the tourism industry.

According to investment theory, increases in interest rates would also have an impact on the decision of tourists to spend their money (Gu, 1995). In other words, rising interest rates encourage travelers to save instead of spend. Therefore, visitors' consumption of tourism-related items is limited by the amount of income reserved for savings (McIntosh and Goeldner, 1986). As a result, according to investment theory, leisure time (tourism consumption) incurs a cost referred to as opportunity cost, which

is equal to the extra future disposable income that may be generated by skipping today's leisure time in order to save money. This shows that the consumer's trade-off between current and future tourist spending is influenced by changes in opportunity costs (interest rates). More precisely, when the interest rate equals the tradeoff between savings and tourism spending, a consumer's income allocation is optimized (Copeland and Weston, 1983). To put it another way, consumers are more interested in tourism than saving till interest rates have risen so much that saving becomes more valuable than tourist consumption. When interest rates vary, foreign currency rates will move as well.

Moreover, Gu (1995) stated that tourism consumption declines as domestic interest rates rise relative to foreign interest rates and vice versa. As a result, tourism consumption is more vulnerable to interest rate changes than other products and services. Because an increase in interest rates encourages consumers to save their disposable money, tourism expenditure falls. Additionally, interest rate fluctuations have the additional effect of influencing tourism-related industries by altering the cost of capital. This means that interest rate fluctuations can affect tourist businesses' activity, which in turn influences investors' decisions about tourism firms' stock investments.

Furthermore, sentiment refers to the expectations of households (consumers) and businesses (producers) towards current and future economic conditions (De Grauwe, 2011). In other words, consumer and producer sentiment measures the degree to which consumers and producers are optimistic or pessimistic about the present and future economic circumstances. For this research, we utilized proxies to provide a comprehensive picture of how sentiment shifts may affect tourist stock performance.

Consumer sentiment is measured by the Consumer Confidence Index (CCI), whereas producer confidence is measured by the Business Confidence Index (BCI). Therefore, the degree to which customers have confidence in the condition of the future economic environment will influence their purchasing choices for products and services in the future (Chen, 2015). Consumers' spending on products and services is likely to increase if they believe that the economic circumstances in the future will be favorable. Consequently, when predictions about future economic circumstances are deemed and not favorable, people spend less. In essence, this decreases the demand for products and services, especially for tourism, due to changes in consumer sentiment, which, seen as indications of future economic circumstances (van Aarle and Moons, 2017). Based on the above, changes in interest rates and sentiment (BCI, CCI) may have an impact on the performance of tourist stock prices. According to the present value model, a stock price is a reflection of its future cash flows. Hence, as a result, increasing future cash flows of tourist businesses boosts tourism firms' share prices, which leads to increasing the stock's returns (Chen, 2015).

Thus, to stress the impact of monetary policy and sentiment on tourism stock prices, rising domestic interest rates raise the cost of capital, limiting the liquidity available to tourism firms for expansion and capital investment plans, thereby reducing future cash flows (Goyenko and Ukhov 2009). As a result, tourism firm stocks, and therefore their stock returns, are projected to fall, while lower interest rates enhance tourism company cash flows, resulting in higher stock prices and yields. Similarly, Consumer sentiment measures how optimistic or pessimistic customers are about future economic situations, influencing their spending on tourism products like restaurants, hotels, casinos, and travel (Singal, 2012; Dragouni, 2016). Likewise, higher (lower) tourist producer sentiment encourages them to invest more (less) cash in growth and

investment activities (recession). Consequently, this will boost tourism firms' cash flow and stock prices, and returns.

An increasing body of research has revealed that stock prices respond systematically to changes in economic conditions (BCs and FD). The influence of stock price fluctuations on firm earnings and dividends varies depending on the business conditions (Chen et al., 1986; Campbell, 1987; Fama and French, 1988; Asprem, 1989; Wasserfallen, 1989; Booth and Booth, 1997; Chen. N, 1991; Jensen et al., 1996). Financial development (FD) may also assist the tourism sector by fostering advantageous business conditions (BCs). For instance, based on prior studies, Katircioglu et al. (2018a) discovered a bidirectional relationship between economic growth and tourism in Turkey. Another study that looked at Malaysia's tourism growth by incorporating FD and trade openness was done by Shahbaz et al. (2017), which found a bidirectional causality link between tourism, FD, and trade openness. Furthermore, it is possible that tourism companies would be able to fund their investment activities more efficiently if a well-developed financial sector is established. This will result in a rise in not only cash flows but also stock prices and returns. Hence, Changes in BCs are expected to have an impact on the expansion of the tourist industry, as shown in the relevant research (Chen, 2007b). Likewise, a healthy business environment boosts firm sales and hence revenue, which boosts firm stock prices and profits. While earnings and dividends are expected to fall as business conditions worsen, so will the stock price (Harvey, 1991). On the other hand, Firms' financial performance may positively impact the country's overall economy by increasing job possibilities and income for businesses (Jeon et al., 2004).

Economic policy uncertainty (EPU) occurs when businesses and households are frightened about impending taxes, expenditures, and monetary policies. According to Baker et al. (2016), these factors affect their behavior and confidence about future prospective economic conditions. The consequence is that an elevated level of uncertainty about the direction of economic policy might have a negative impact on household and business decisions about consumption and investment, respectively. As a result, households tend to limit or postpone their consumption, while businesses prioritize liquidity over capital expenditure in order to remain competitive (Ersan et al., 2019; Giavazzi and McMahon, 2012). Notably, Bloom (2009) Dragouni et al. (2016) stated that a drop in demand for non-essential items and services, such as tourism, reflects an increase in economic policy uncertainty.

Additionally, Zhang et al. (2015) assert that a higher level of economic policy uncertainty is reflected in changes in both the economy and financial markets and business environments. Uncertainty about the economy makes businesses keep more cash, which decreases their investment in capital assets, resulting in higher costs of capital (Ersan et al., 2019). Similarly, Tourism demand is eliminated, and tourism earnings are reduced, according to Wang (2009), who claims that global economic policy uncertainty is a significant effect on tourism demand. As a result, EUP reduces the earnings of tourism firms, causing changes in stock prices, as demonstrated by Demir and Ersan (2018), which empirical results show that EPU has a negative influence on Turkish tourism returns.

1.1.1 Theoretical Setting

This thesis suggests that monetary policy, sentiment, and economic conditions are significant contributors to tourism firms' stock prices in major tourist destinations. We use the stock price of tourism firms' as a proxy in their corresponding financial

performance following (Nicolau, 2002; Chen and Bin, 2001). Then, the following functional relationship is proposed in this thesis:

TSI = f (monetary policy, sentiment, economic conditions; control variables') (1.1)

In chapter 2, monetary policy is the first primary independent variable represented by the overnight interbank interest rate (OIR) for Mexico. The federal fund rate (FDR) is used to account for the US monetary policy in line with (Chen, 2010; Chen, 2012; Chen, 2014). Moreover, according to purchasing power parity (PPP) states that exchange rates between two open economies adapt over time to differing inflation rates (Canarella et al., 2014; Grossmann et al., 2014; Shastri and Shastri 2016). If inflation differentials between countries grow, a country's services and commodities become more costly, affecting foreign visitor arrivals. Due to reduced cash flows, tourism companies' stock prices and returns tend to fall. Similarly, the disparity between two nations' real interest rates reflects expectations about the future real exchange rate between them, according to the real interest rate parity hypothesis (RIRP) (Meese and Rogoff, 1988). Thus, a country's future foreign exchange rate will be greater than the spot rate as the difference between the two grows (Güney and Hasanov, 2014; Chang and Yi Su, 2015; Khairnar and Chinchwadkar, 2015). As a result, fewer foreign tourist visits will result in decreased cash flows and stock returns. The sentiment splits into components; consumer and business sentiments, since taking into account both elements can provide a more comprehensive picture of the effect of sentiment on stock returns (Verma et al., 2008). In Chapter 2, our fundamental model is represented by the equation (1.2):

$$TSR_t = \alpha_0 + B_1 \Delta M2_t + B_2 \Delta IP_t + B_3 \Delta EXR_t + B_4 MR_t + B_5 \Delta USTS_t +$$

$$B_6 \Delta USVIX_t + B_7 GFC_t + B_8 DIFINF_t + B_9 DIFINT_t + B_{10} \Delta MAOVR_t +$$

$$B_{11}\Delta USFDR_t + B_{12}\Delta MABCI_t + B_{13}\Delta MACCI_t + B_{14}\Delta USBCI_t + B_{15}\Delta USCCI_t + \varepsilon_{i,t} \quad (1.2)$$

Where Δ stands for a change in the variables', TSRt is tourism firms' stock price in period t; M2t is money supply in period t; IPt is industrial production in period t; EXRt is exchange rate in period t; USRSt is US tourist arrivals in period t; USVIXt is US stock market volatility index in period t; GFCt is global financial crises in period t; DIFINFt is differential inflation in period t; DIFINTt is differential interest rate in period t; MAOVRt is Mexican overnight rate in period t; USFDRt is US federal fund rate in period t; MABCIt and MACCIt is Mexican business and consumer sentiment in period t; USBCIt and USCCIt is US business and consumer sentiment in period t. t denotes the time period (t = M03,1998,…M02, 2019), The parameters of β_1, β_2, β_3 and β_{15} are the coefficients of regressors, and ε is the error-disturbance.

In chapter 3, the study suggests that business and financial conditions (BCs and FD) are significant contributors to tourism firms' stock prices in major tourist destinations. The gross domestic product (GDP) is generally used as a business proxy. Industrial production (IP) is another popular measure besides GDP (Chen. N, 1991; Fama & French, 1989; Chen, 2005; 2007b). Industrial production measures the circumstances under which the manufacturing sector is tightly monitored while gross domestic product includes both production and other service industries. Besides, according to Cobb-Douglas, growth functions and macroeconomic theory are concerned; another two measurements for BCs (capital and labor) also have been added to equation (1). Furthermore, money supply (M2) and credit to the private sector (DC) are taken as a proxy for FD indicators (Shahbaz et al., 2017; Katircioglu, 2017). Therefore, a functional relationship will be then established in this study in parallel to those in the

relevant literature (Katircioglu, 2009a; 2009b; Singal, 2012; Demir and Ersan, 2018; Demir et al., 2017; Chen, 2015).

$$lnTSI_{i\tau} = \beta_0 + \beta_1 lnGFC_{i\tau} + \beta_2 lnlABOR_{i\tau} + \beta_3 lnGDP_{i\tau} + \beta_4 lnIP_{i\tau} + \beta_5 lnCPI_{i\tau} + \beta_6 lnRER_{i\tau} + \beta_7 lnDC_{i\tau} + \beta_8 lnM2_{i\tau} + \beta_9 lnTA_{i\tau} + \varepsilon_{i\tau} \quad (1.3)$$

Where TSIt is tourism firms' stock price in period t; GCFt is gross capital formation in period t, LABORt is the overall labor force in period t, GDPt is gross domestic product in period t, IPt is industrial production in period t, CPIt is consumer price index in period t, and RERt is real exchange rates in period t, M2t is money supply in period t, DCt is credit to private sector in period t, and TAt is international tourist arrivals in period t. Equation (2) will be then expressed in the logarithmic form in order to capture growth effects in the long term as (Katircioglu, 2017; Katircioglu, 2010a). Where i denotes the country (i = 1,…8), t denotes the time period (t = Q1,2004,…Q4, 2017), The parameters of β_1, β_2, β_3 and β_{10} are the coefficients of regressors, and ε is the error-disturbance.

In chapter 4, we examine the role of economic sentiment and economic policy uncertainty (both domestic and European) in explaining changes in travel and leisure stock index returns. Changes in economic mood and policy uncertainty (both domestic and European) indexes are this study's most important independent variables. The economic sentiment index (ESI) is a survey-based index that aims to provide information on perceptions and expectations of economic agents, both from the demand (consumers) and the supply (producers) sides of the economy (signal, 2012; Chen, 2015). Moreover, this study collected the scores of the economic policy uncertainty index (EPU), as in Demir and Ersan (2018) and Bloom (2009) and Dragouni et al. (2016), for measuring the global economic policy uncertainty. This

index is constructed by Baker, Bloom, and Davis (2016) and reflects the global degree of economic uncertainty among market participants. In Chapter 2, our basic model is represented by the equation (1.4):

$$T\&lSR_{i,t} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta CPI_{i,t} + B_3\Delta IP_{i,t} + B_4\Delta EXR_{i,t} + B_5\Delta OIL_t + B_6GFC_t + B_7MR_{i,t} + B_8\Delta DESI_{i,t} + B_9\Delta DEPU_{i,t} + B_{10}\Delta UESI_{i,t} + B_{11}\Delta UEPU_{i,t} + \varepsilon_{i,t} \quad (1.4)$$

Where Δ stands for a change in the variables', T&LSRt is tourism firms' stock price in period t; M2t is money supply in period t; CPIt is consumer price index in period t; IPt is industrial production in period t; EXRt is exchange rate in period t; OILt is oil price in period t; GFCt is global financial crises in period t; MRt is stock market return in period t; DESIt and UESIt is domestic and European economic sentiment in period t; DEPUt and UEPUt is domestic and European economic policy uncertainty in period t. Where i denotes the country (i = 1,…4), t denotes the time period (t = M01,2001,…M09, 2018), The parameters of β_1, β_2, β_3 and β_{11} are the coefficients of regressors, and ε is the error-disturbance.

1.2 Research Objectives

The primary objective of this thesis is to study the impact of monetary policy, sentiment, and economic conditions on the performance of tourism stocks. To achieve this objective, the thesis is organized into three main chapters. In chapter 2, the objective is to investigate the effect of sentiment and monetary policy (both domestic and the US) on tourism stock returns in Mexico during the period 1998M03-2019M12. Mexico is a top ten global tourism destination and tops the list of Latin American tourism destinations (World Travel and Tourism Council, 2018). According to World Bank data (2018), the Mexican financial market was second in Latin America in terms of market capitalization only to Brazil's. Also, because Mexico is a strongly collectivist

country, individuals tend to overreact to information, affecting stock prices and returns (Hofstede, 2001). Mexico is the second-largest market for US exports due to proximity and trade agreements. In addition, the two nations' economies and stock markets are strongly linked due to their extensive trade links (Sarwar and Khan, 2016). According to the US National Travel and Tourism Office (NTTO, 2018), US visitors accounted for 89 percent of total foreign tourist arrivals in Mexico in 2017 and 40 percent of total US outbound tourists who travel to international tourism destinations in 2018.

In chapter 3, the objective is to explore the impact of economic conditions (BCs and FD) on tourism, hospitality, and leisure stocks in key tourist destination nations. In another term, the business and financial conditions may affect the stock values of tourism, hospitality, and leisure businesses operating in major tourist destinations such as (France, USA, Spain, China, UK, Germany, Mexico, and Thailand). The top tourism destinations in this study were chosen based on the World Tourism Organization's rating (UNWTO, 2019). Therefore, although several studies have shown a link between macroeconomic variables and stock returns, the relationship between the financial sector and the tourism, leisure, and hospitality industries has yet to be fully explored.

In chapter 4, this study examines the impact of changes in economic sentiment and policy uncertainty (both domestic and European) on the returns of the top European tourism countries, France, Germany, Spain, and the UK. These countries' stock markets are among Europe's top six. Furthermore, according to the International Tourism Organization, they were among the top five European tourist destinations in 2017 in terms of foreign visitor numbers, tourism income, and tourism spending (World Travel and Tourism Council, 2018). Moreover, about 83% of the total

international tourists in Europe originate from the European market, and 72% of the European market is within the EU market (World Tourism Organization, 2018). This implies that changes in the European Union's economic conditions are more likely to have an influence on Europe's tourism industries. As a result, the primary objective of this thesis is to address the following research questions:

- Do sentiment and monetary policy (domestic and US) influence the tourism firms' stock returns in Mexico?
- Do economic conditions (business and financial) affect the tourism stock prices in top tourism destinations countries?
- Do economic sentiment, and economic policy uncertainty changes significantly influence contemporaneous and future travel and leisure stock returns in top European Union (EU) tourism destinations?

1.3 Research's Contribution

To the best of our knowledge, this study is the first to investigate in depth the interaction of monetary policy, sentiment, and economic conditions on tourist stock performance. Therefore, this thesis contributes to the extant literature in several ways. To start with chapter 2, first, although tourism firms' stock returns result from both local and global influences, including U.S. monetary policy, this is one of the first studies to analyze this effect. Previous research has been focused on the impact the domestic monetary policy has on the returns of tourist-related firms (Chen, 2007; Chen, 2010; Chen, Liao, and Huang, 2010; Chen, 2014). Second, it contributed to the literature on the impact of consumer sentiment on tourism firms' stock returns by examining the link between domestic and US producer sentiment on tourism firm stock returns. On the other hand, other research has studied the impact of domestic consumer sentiment on the stock returns of tourism companies (Singal, 2012; Chen, 2015; Demir

and Ersan, 2018; Demir et al., 2017). In chapter 3, the study contributes to the existing body of literature in threefold. First, this study builds on Chen's (2007b) work, which examines the impact of BCs on hotel stock returns. By looking at the impact of BCs on the entire tourism firm stock index, which includes airlines, travel and tourism, gambling, restaurants and bars, leisure services, and hotels, providing a comprehensive picture of the effect of BCs on the tourism industry. Second, no prior research has been conducted to examine the impact of FD on the stock price index of tourism firms. However, for instance, Shahbaz et al. (2017) and Katircioglu (2017) investigated the effect of FD on tourism growth (international tourist arrivals). Third, we fill the gap by employing a new panel-based econometrics model, the first and second generation, to measure the effects of BCs and FD on leading tourism destinations.

Furthermore, in Chapter 3, we analyze the impact of domestic and regional sentiment on tourism stock returns to offer a comprehensive picture. By doing so, we build on the previous research of Singal (2012) and Chen (2015), who investigated the influence of domestic sentiment on tourism stock returns. Additionally, we examine how domestic and European economic policy uncertainty impacts future travel and leisure stock returns by projecting the predictive potential of these two forms of policy uncertainty; prior research, on the other hand, has only taken into consideration domestic economic policy uncertainty (e.g., Demir and Ersan, 2018; Ersan et al., 2019). Lastly, using predictive regression models, we demonstrated the predictive capacity and significance of domestic and European economic sentiment and economic policy uncertainty changes in predicting future travel and leisure stock index returns over various forecasting horizons.

Chapter 2

IMPACT OF SENTIMENT AND MONETARY POLICY ON MEXICAN TOURISM STOCK RETURNS: THE DOMESTIC AND US ROLE

2.1 Introduction

The concept of sentiment refers to households (consumers) and entrepreneurs' (producers) expectations on the current and future economic conditions (De Grauwe, 2011). This indicates that sentiment gauges to which extent consumers and producers are optimistic or pessimistic about the current and future economic conditions. As a result, the level of economic activity might be driven by how consumers and producers perceive the economic conditions to develop in the future (van Aarle and Moons, 2017). Therefore, consumers' purchase decisions on goods and services will be built on their confidence extent about the state of the future economic environment (Chen, 2015). Consumers' expenditure on goods and services is likely to be higher if consumers perceive that the future economic conditions are promising.

In contrast, consumers spend less when expectations of future economic conditions are considered to be not encouraging. Thus, the demand for goods and services, mainly for tourism demand, will be influenced by consumer sentiment changes, which are regarded as signals of future economic conditions (Kim et al., 2012; Dragouni et al., 2016). In the same way, tourism producers' optimism about the current and future

economic conditions encourages them to increase and expand their tourism activities. Based on the above, changes in sentiment provide essential information for investors who seek to invest in stocks, particularly tourism firm stocks.

A tourist is also considered a buyer and a saver or investor. According to investment theory, interest rate increases would also influence the decision on the tourist's consumption (Gu, 1995). This implies that increasing interest rates encourage tourists to save over-consume. As a result, tourists' consumption of tourism goods is subject to the amount of income allocated for savings (McIntosh and Goeldner, 1986). Therefore, according to investment theory, leisure time (tourism consumption) has a cost called opportunity cost that reflects the additional future discretionary income that can be earned by giving up today's leisure time to save money. This indicates that the consumer's tradeoff between present and future tourism consumption is determined by opportunity cost (interest rate) changes. More specifically, a consumer's income allocation between savings and tourism consumption is maximized at the point where the tradeoff between savings and tourism consumption is equal to the interest rate (Copeland and Weston, 1983). In other words, a consumer prefers to consume tourism over to save unless the interest rate would have increased to levels that make the utility of savings higher than its counterpart of tourism consumption. However, changes in interest rates are accompanied by changes in foreign exchange rates.

Moreover, an increase in domestic interest rates derives up savings, which is offset by a decline in tourism consumption and vice versa. On the other hand, the increase in domestic interest rates compared to foreign interest rates cause an evaluation in domestic currency, resulting in a decline in tourism consumption. Therefore, tourism consumption is more sensitive to interest rate changes than other goods and services

consumption (Gu, 1995). Furthermore, interest rate changes can also affect tourism producers' decisions through their effects on the cost of capital. This happening implies that changes in interest rates can affect tourism firms' activity, which, in turn, influences investors' decisions on tourism firms' stock investment. Based on the above, this study intends to examine the answer to the following question: Do sentiment and monetary policy influence the tourism firms' stock returns in Mexico?

The present value model states that a firm stock price is a function of its future cash flows. Thus higher future cash flows of tourism firms lead to higher tourism firms' stock prices and hence higher stock returns. Since consumer sentiment represents customers' perceptions about future economic conditions, consumer sentiment is expected to affect the stock price of tourism firms, hence their returns (Chen, 2015). Higher (lower) consumer sentiment means consumers are optimistic (pessimistic) about future economic conditions, motivating (discouraging) them to spend more (less) on tourism items such as restaurants, hotels, casinos, and travel (Singal, 2012; Dragouni, 2016). Consequently, tourism firm cash flows tend to be higher (lower), and hence higher (lower) tourism stock returns.

In the same way, higher (lower) tourism producers' sentiment induces them to allocate more (less) capital on expansion and investment operations as a response to potential economic prosperity (recession). This will result in higher tourism firm cash flows and higher stock prices and returns. Also, changes in interest rates contribute to tourism firms' stock return variations through their effects on consumers' spending and borrowing behaviors and tourism firms' cost of capital, affecting tourism firms' future and cash flows (Goukasian et al., 2012). On the one hand, an increase in domestic interest rates changes consumers' behavior toward tourism products. Consumers tend

to reduce or postpone their spending on luxurious goods and services (especially those provided by tourism industry firms) and prefer to invest in money markets. Therefore, consumers sacrifice from their traveling and tourism activities leading to a decline in tourism firms' future cash flows, which in turn translated into lower stock prices and returns.

On the other hand, higher domestic interest rates imply a higher cost of capital, reducing liquidity levels allocated by tourism firms for expansion and capital investment plans, reducing firms' future cash flows (Goyenko and Ukhov 2009). As a result, tourism firm stocks are expected to decline, hence their stock returns, while lower interest rates boost tourism firm cash flows reflecting higher stock prices and yields. Furthermore, an increase (decrease) in the US interest rates has effects on international capital flows between the US and other countries, which might lead to a rise (decline) in other countries' foreign exchange rates against the US Dollar (Nidhiprabha, 2016). This deprecation (apperception) in these countries' currency is more likely to attract (alienate) international tourist arrivals to those countries (Kim et al., 2016). Therefore, tourism firm cash flows tend to increase (decrease), leading to higher (lower) stock prices and, hence stock returns as a response to higher (lower) US interest rates.

This study aims to investigate the effect of sentiment and monetary policy (both domestic and the US) on tourism stock returns in Mexico during the period 1998M03-2019M12. Mexico is among the top ten world tourism destinations and occupies first place in the top Latin American tourism destinations in terms of international tourist arrivals and tourism receipts (World Travel and Tourism Council, 2018). According to World Bank data (2018), the Mexican financial market ranked the second largest

financial market in Latin America in terms of market capitalization after Brazil's financial market. Also, Mexico is characterized as a highly collectivistic society in which individuals may tend to exhibit herd-like behavior making Mexican investors overreact to information, which in turn influences stock prices, and hence returns (Hofstede, 2001). Since Mexico and the US are geographically close neighboring countries, and trade agreements are bound, Mexico is the second-largest market for US exports. Such a significant trading link between the US and Mexico makes the two countries' economies and stock markets highly integrated (Sarwar and Khan, 2016). Besides, Mexico is the first touristic destination of Americans, since the US tourists accounted for 89% of total international tourist arrivals in Mexico in 2017, and Mexico acquired 40% of the total US outbound tourists who travel to international tourism destinations in 2018, according to the US national travel and tourism office. Based on the above, the changes in sentiment and monetary policy in the US and Mexico are likely to serve as a reason for changes in Mexican tourism firms' stock returns. Investigating the impact of sentiment and monetary policy at domestic and the US levels on Mexican tourism firms' stock returns provides new sights into hospitality business managers and investors who peruse financial investment in Mexican tourism firms' stocks. This study contributes to the literature in two ways. First: it is one of the first to examine the spillover of US monetary policy on tourism firms' stock returns. Related studies have focused on the effect originating from the domestic monetary policy on tourism firm stock returns (Chen, 2007; Chen, 2010; Chen, Liao, and Huang, 2010; Chen, 2014). Second: it extends the literature on the effect of consumer sentiment on tourism firms' stock returns by examining the connection between domestic, US producer sentiments, and tourism firms' stock returns. Other studies have

addressed the effect of domestic consumer sentiments on tourism firm stock returns (Singal, 2012; Chen, 2015; Demir and Ersan, 2018; Demir et al., 2017).

The remainder of this article is structured as follows: Section 2 presents a literature review; Section 3 describes the data; Section 4 explains the methodology; section 5 summarizes the empirical results and discussion; and section 6 concludes the study.

2.2 Literature Review

A few studies investigated the effect of consumer sentiment on hospitality firm stock returns (e.g., Singal, 2012; Chen, 2015; Demir and Ersan, 2018; Demir, Alıcı, and Lauc, 2017). Singal (2012) pointed out that changes in the US consumer sentiment index positively related to tourism firms' stock returns in the US. More so, the study revealed that consumer sentiment has lower forecasting power to predict tourism firms' stock returns, and the forecasting power can only be used for firm profit maximization strategy. Also, he indicated that lagged consumer sentiment has more strong explanatory power than contemptuous consumer sentiment for changes in expenditure on serveries and hospitality industry products. Chen (2015) provided a comprehensive picture of the impact of consumer sentiment on Tawnies hotel stock performance. It showed that consumer sentiment changes positively enhance stock returns and total sales while negatively influencing stock cash flows risk. Demir and Ersan (2018) argued that Turkish tourism firm stock returns respond positively and weakly to the consumer confidence index changes. Demir et al. (2017) indicated that the growth rate of the consumer confidence index significantly caused Turkish tourism stock returns pre- 2008 financial crisis, while, in the post-financial crisis, there is no significant causality linkage.

A stream of literature has specifically given attention to the impact of monetary policy on tourism firms' stock returns (e.g., Chen, 2007; Chen, 2010; Chen, Liao, and Huang, 2010; Chen, 2014). They indicated that monetary policy has different effects according to the stance of monetary policy. Chen (2007) finds out that Taiwanese hotel stock returns asymmetrically respond to the monetary policy in times of expansionary policy; Chen (2007) also finds the non-significant effect of tight monetary policy on hotel stock returns. On the other hand, Chen (2010) explored how US hospitality firms' stock returns, namely restaurant, gambling, and lodging, respond to different measures of monetary policy changes. He indicated that only restaurant stock returns significantly and negatively reacted to changes in the federal funds rate, but not to changes in the discount rate. However, Chen et al. (2010) found out that hotel and tourism firm stock returns in Hong Kong significantly and negatively reacted to changes in the discount rate. Goukasian et al. (2012) examined the impact of US monetary policy risk on tourism firm stock returns by decomposing monetary policy into unexpected and expected components. They pointed out that unexpected changes in the US monetary policy negatively and strongly affect restaurant and hotel stock returns, while the expected changes are irrelevant. In the same vein, Chen (2012a) indicated that airline, gambling, hotel, and travel and leisure firm stock returns highly and negatively respond to the unexpected component of US monetary policy; in contrast, the expected part has no significant effect. Chen (2012b) showed that tourism stock returns to monetary policy changes depend on economic climate conditions. Results indicated that airline, hotels, restaurants, and travel and leisure stock returns negatively reacted to federal fund rate changes. The magnitude effect was and substantial during economic contraction periods compared to expansion periods. Also, Chen (2014) investigated the impact of the US monetary policy components on

tourism stock returns under different stock market regimes. It was found that overbear stock market regime, the unanticipated part of federal fund target rate changes negatively and profoundly influenced the airline, gambling, hotel, travel, and leisure stock returns. Whereas, during the bull stock market regime, only travel and leisure stock returns negatively and profoundly responded to the unanticipated component of federal fund target rate changes.

Another stream of the literature addresses the link between various macroeconomic variables and tourism firms' stock returns. Barrows and Naka (1994) considered the effect of industrial production, money supply, domestic consumption, inflation rate, and the interest rate on restaurant and lodging firms' stock returns in the US. Results revealed that stock returns significantly responded to only the growth rate of money supply, domestic consumption, and inflation rate. In the same vein, Chen et al. (2005) indicated that among the industrial production, money supply, expected inflation, the change of unemployment rate, and the yield spread, only the growth rate of money supply and the unemployment rate significantly influences Taiwanese hotels' stock returns. Also, Chen (2007) found a long-run relationship and bidirectional causal association between business conditions gauged by (the growth rate of GDP) and hospitality stock returns in both China and Taiwan.

In contrast, Chen (2010) showed that neither the growth rate of GDP nor the tourist arrivals have significant effects on hotels' stock returns. Findings also indicated that the hotels' rooms' occupancy rate is significantly affected by the growth rate of tourist arrivals and GDP. Furthermore, the rate of return on assets and equities respond significantly to only the growth rate of the tourist arrivals, the growth rate of tourism arrivals, and GDP. Al-Najjar (2014) examined the effect of GDP and firm governance

represented by (size and the independence of the board) on tourism firm stock prices in five Middle Eastern countries. Results showed a GDP growth rate, and Board independence has a positive effect on tourism firms' profitability and stock returns. Also, the large size of firms' boards positively influences firms' profitability, while the small size of the firms' boards enhances firms' stock returns. Finally, Mohapatra (2017) utilized the international capital assets pricing model to investigate the effect of foreign exchange rate changes on hotel stock returns in India before and after the - 2008 financial crisis. According to the findings, the Indian hotel stock returns negatively reacted to foreign exchange rate changes before and after the financial crisis and even for the whole period.

2.3 Data

2.3.1 Dependent Variables

This paper examines the effect of sentiment and monetary policy changes (both domestic and US) on tourism firms' stock returns in Mexico (MEXICO-DS Travel & Leis-price index), utilizing monthly data for the period 1998M03 to 2019M12. The starting and endpoint for the sample period were chosen due to data availability where tourism firms' stock index prices data for Mexico has been available since 1998M02. In contrast, data on US tourist arrivals to Mexico is available till 2019M012. Monthly travel and leisure firms' stock index prices are employed to capture the stock returns' monthly tourism firms. This selection is because since they reflect the stock performance of listed travel and leisure firms in the stock exchange such as airlines, travel and tourism, gambling, restaurants and bars, recreational services, and hotels following (Demir and Ersan, 2018). The monthly tourism firms' stock returns (TSR_t) are calculated using $Ln\ (P_t/\ P_{t-1})\ \times 100$, where P_t: is the travel and leisure stock price index. Data are obtained from Thomson Reuters DataStream.

2.3.2 Independent Variables

The key independent variables in this paper are the monthly sentiment and monetary policy (both domestic and the US) changes. The monthly sentiment splits into components; consumer and business sentiments, since taking into account both elements can provide a more comprehensive picture of the effect of sentiment on stock returns (Verma et al., 2008). Monthly consumer sentiment is proxied by the Consumer confidence index (CCI) used to capture consumer sentiments following the work of Singal (2011) and Chen (2015). The monthly business confidence index (BCI) represents producers' sentiment in line with (Bayram, 2017). Data on CCI for Mexico and the US was collected from Thomson Reuters Data Stream. Data on BCI for Mexico and the US were received from Mexico's Central bank and the Organization for Economic Co-operation and Development (OECD), respectively. Monetary policy is the second primary independent variable represented by the overnight interbank interest rate (OIR) for Mexico. The federal fund rate (FDR) is used to account for the US monetary policy in line with (Chen, 2010; Chen, 2012; Chen, 2014). Data on OIR are collected from Thomson Reuters DataStream, while FDR from the Federal Reserve Bank of ST. Louis. According to purchasing power parity (PPP), exchange rates between two open economies adjust in the long run to differential inflation rates between them (Canarella et al., 2014; Grossmann et al., 2014; Shastri and Shastri 2016). Therefore, if differential inflations between a country and the US widen, that country's services and goods turn out to be more expensive, which negatively affects international tourist arrivals to that country. As a result, tourism firms' cash flows tend to decrease, leading to lower stock prices and lower stock returns.

In the same way, according to the real interest rate parity hypothesis (RIRP), which built PPP and uncovered interest rate party (UIP), the differential between two

countries' real interest rates reflects the expectations on the future real exchange rate between the two of them (Meese and Rogoff, 1988). Thus, as the differential between a country and US real interest rates increases, the country's future foreign exchange rate will be higher than the spot one (Güney and Hasanov, 2104; Chang and Yi Su, 2015; Khairnar and Chinchwadkar, 2015). Therefore, international tourist arrivals will lower, causing tourism firms' cash flows to decline, followed by lower returns. According to the above, investigating the spillover effect of US monetary policy on Mexico tourism firms' stock returns should be conducted by considering differential inflation and real interest rates between the US and Mexico. The differential inflation and real interest rates between the US and Mexico are calculated as follows: $DIFIFR_t = MACPI_t - USCPI_t$ Where: $DIFIFR_t$ is the differential inflation rate at time t, and $MACPI_t$ and $USCPI_t$ are the growth rates of consumer price indexes in Mexico and the US, respectively. $DIFRINR_t = MARINT_t - USRINT_t$ Where: $DIFRINR_t$ is the differential interest rate at time t, and $MARINT_t$ and $USRINT_t$ are real interest rates in Mexico and the US, respectively. Real interest rates are calculated as 3- month Treasury bill – the growth rate of consumer price index following (Sui and Sun, 2016). We used the Certificados de la Tesorería de la Federación for 91 days (the Mexican Federal 91- Treasury Certificates) as 3- month Treasury bill for Mexico in line with Perez-Liston et al. (2018), while the 3-month Treasury bill rate used for the US.

To take into account the effect of other variables, we control for the impact of macroeconomic variables on tourism firms' stock returns: the monthly growth rate of industrial production (ΔIP_t) (Chen, 2007; Chen, 2015), the monthly growth rate of money supply ($\Delta M2_t$) (Chen, Kim, and Kim, 2005; Demir et al., 2017), and the

monthly growth rate of Peso exchange rate against the US Dollar (ΔEXR_t). Moreover, we added into our model the monthly growth rate of the US tourist arrivals to Mexico as a proxy for tourism expansion, since the US tourist arrivals account for about 90% of total international tourist arrivals to Mexico ($\Delta USTS_t$), following Chen (2015), we added a dummy variable (GFC) to capture the effect of the financial crisis by taking the value of 1 during the period 2007M01 to 2009M12 and zero otherwise in line with (Ersan et al., 2018), the growth rate of US stock volatility index ($\Delta USVIX_t$) Where $USVIX$: is the investors' fears measured by volatility implied volatility index of S&P 500 following (Sarwar and Khan, 2017). Finally, we included the monthly overall stock market returns as (MR_t) since any sector or individual stock returns are profoundly affected by MR following Chen (2015). All control variables data were collected from Thomson Reuters DataStream, except for the US tourist arrivals to Mexico data were obtained from the US National Travel and Tourism Office. All independent variables growth rates were computed as follows: $(P_t - P_{t-1})/P_t \times 100$ where: P_t is the variable value at time t and P_{t-1} is the variable value at time $t-1$.

Table 2.1 shows descriptive statistics for all variables over the period 1998M03 /2019M12. TSR has mean returns of 0.418% and standard deviations of 6.696%, while MR comparatively showed a higher mean return of 1.136% with standard deviations of 6.268%. $DIFINF$ on average is 0.254%, with a maximum and minimum value of 2.9% and -1.055%, respectively. However, $DIFINT$ profoundly has a mean of 6.495%, with the highest maximum value of 37.540% and a positive minimum value of 2.180%, respectively. This indicates that real interest rate levels in Mexico always were higher than its counterpart; it is the US over the whole period. The skewness is negative and

positive for some variables, indicating that these series are skewed to the left and the right, respectively indicating the effect of outliers in these data, which makes their distribution extend toward more negative and positive values. Therefore, variables are winsorized at the 1% level to mitigate the effects of extreme values in the estimations and make the distribution of the variable closer to the normal distribution. Following Bahreini and Adaoglu (2018), the Shapiro-Wilk normality test is applied on the winsorized variables, which indicates that all variables are closest to a normal as the p-value corresponding to each variable is less than 5%, as shown in table 2.

Table 2.1: Descriptive Statistics

Variable	Mean	Median	Max.	Min.	Std. Dev.	Skewness	Kurtosis	Obs.
TSR	0.418	0.040	27.740	-28.226	6.696	0.044	6.650	261
$\Delta M2$	0.584	0.556	1.804	0.024	0.252	1.147	6.218	261
ΔIP	0.087	0.095	2.923	-4.096	0.872	-0.435	5.321	261
ΔEXR	0.364	0.080	15.363	-6.836	3.027	1.095	6.546	261
$\Delta USVIX$	2.375	7.938	29.235	-27.711	29.021	3.968	31.270	261
$DIFINF$	0.254	0.209	2.907	-1.055	0.531	1.010	6.484	261
$DIFINT$	6.495	4.700	37.540	2.180	5.139	3.122	14.825	261
$\Delta MAOIR$	-0.315	0.295	44.566	-25.806	5.822	2.464	10.162	261
$\Delta USFDR$	0.567	0.000	100	-59.793	13.931	1.118	18.766	261
MR	1.136	1.718	20.945	-25.215	6.268	-0.217	4.385	261
$\Delta MABCI$	0.053	-0.177	11.549	-15.628	3.396	-0.248	5.429	261
$\Delta MACCI$	0.000	0.010	0.445	-0.382	0.130	-0.184	4.155	261
$\Delta USBCI$	0.005	-0.012	0.658	-0.918	0.231	-0.092	4.665	261
$\Delta USCCI$	0.075	-0.327	13.612	-18.065	4.972	-0.125	3.854	261
$\Delta USTS$	5.952	3.982	810.451	-88.590	56.822	11.859	166.380	261

Table 2.2: Shapiro-Wilk Normality Test Results

Variable	Shapiro-Wilk test	p-value
TSR	0.995	0.123
$\Delta M2$	0.985	0.911
ΔIP	0.991	0.105
ΔEXR	0.998	0.543
$\Delta USVIX$	0.989	0.765
$DIFINF$	0.999	0.678
$DIFINT$	0.995	0.654
$\Delta MAOIR$	0.987	0.492
$\Delta USFDR$	0.978	0.097
MR	0.981	0.299

$\Delta MABCI$	0.99	0.123
$\Delta MACCI$	0.994	0.109
$\Delta USBCI$	0.988	0.122
$\Delta USCCI$	0.997	0.987
$\Delta USTS$	0.998	0.765

2.4 Methodology

We test whether each variable is stationary or not using the Augmented Dickey-Fuller (1979) (ADF) test and Phillips-Perron (1988) (PP) test. Table 2.3 Results confirmed that both tests are significant at a 1% level, and thus all variables have no unit-roots. More importantly, the differential real interest rate between Mexico and the US is stationary at a level implying that the RIRP hypothesis holds. Thus, the two countries' financial markets are well integrated (Güney and Hasanov, 2014). We also examine whether all winsorized variables are highly correlated or not. To do so, we computed the correlation coefficient between each pair of the independent variables. According to table 4, results signify that all pair correlation coefficients; the independent variables are as low as 50.1 %; it indicates that a multicollinearity problem does not exist among the variables.

Table 2.3: Unit Root Test Results

Variable	τ_μ (ADF)	τ_T (ADF)	τ (ADF)	τ_μ (PP)	τ_T (PP)	τ (PP)
TSR	-14.168***	-14.157***	-14.152***	-14.335***	-14.323***	-14.324***
$\Delta M2$	-6.204***	-6.899***	1.620*	-9.496***	-10.113***	-3.209***
ΔIP	-18.268***	-18.234***	-18.103***	-18.046***	-18.015***	-17.907***
ΔEXR	-14.396***	-14.37***	-14.233***	-14.367***	-14.339***	-14.242***
$\Delta USVIX$	-15.405***	-15.402***	-15.328***	-15.405***	-15.402***	-15.326***
$DIFINF$	-7.988***	-8.228***	-6.920***	-7.946***	-8.025***	-6.932***
$DIFINT$	-14.403***	-14.426***	-14.432***	-14.444***	-14.446***	-14.472***
$\Delta MAOIR$	-10.037***	-10.144***	-10.036***	-10.024***	-10.076***	-10.025***
$\Delta USFFR$	-10.909***	-11.126***	-10.917***	-10.899***	-11.15***	-10.909***
MR	-15.104***	-15.157***	-14.670***	-15.096***	-15.150***	-14.695***
$\Delta MABCI$	-14.323***	-14.302***	-14.349***	-14.340***	-14.319***	-14.366***
$\Delta MACCI$	-5.461***	-5.500***	-5.472***	-3.865***	-3.830***	-3.878***

$\Delta USBCI$	-6.341***	-6.325***	-6.346***	-3.988***	-3.978***	-3.999***
$\Delta USCCI$	-13.276***	-13.317***	-13.297***	-17.100***	-17.685***	-17.099***
$\Delta USTS$	-11.925***	-12.010***	-17.214***	-17.229***	-17.625***	-17.229***

Note: ***, **, * denotes the rejection of the null hypothesis that the series has a unit root at the 1%, 5%, and 10% levels, respectively, for ADF and PP tests. τ_μ tests equation with drift and without trend; τ_T is with a drift and trend; τ is without a drift and trend respectively.

Table 2.4: Correlation Matrix

	M2	*IP*	*EXR*	*DIFINF*	*DIFINT*	*MAOIR*	*USFDR*	*MR*	*MABCI*	*MACCI*	*USBCI*	*USCCI*	*USTS*	*USVIX*	*STR*
M2	1														
IP	-0.134**	1													
EXR	0.176*	-0.014	1												
DIFINF	0.217***	-0.024	0.028	1											
DIFINT	0.386***	-0.023	0.000	-0.499**	1										
MAOIR	0.421***	-0.002	-0.046	-0.432***	0.501***	1									
USFDR	-0.197***	0.061	-0.03	-0.159**	-0.082	-0.080	1								
MR	-0.193***	0.116*	-0.116	-0.148**	-0.100	-0.077	0.022	1							
MABCI	-0.201***	0.010	-.326***	-0.026	-0.059	-0.010	-0.022	0.297	1						
MACCI	-0.432***	0.100	-0.193***	0.077	-0.041	-0.030	0.232***	0.283***	0.328***	1					
USBCI	-0.305***	0.066	0.197***	0.184***	-0.040	0.659	0.120*	0.337***	0.297***	0.463***	1				
USCCI	0-.271***	0.034	0.000	0.135	-0.046	-0.040	0.011	0.149**	0.119*	0.564***	0.135**	1			
USTS	-0.035	0.032	-0.093	0.053	-0.012	0.000	-0.073	0.040	0.155**	0.089***	0.047	0.033	1		
USVIX	0.049	-0.095	0.438***	-0.044	0.011	-0.010	0.026	-0.036	-0.191***	0.218***	0.215***	-0.110	-0.100	1	
STR	-0.044	-0.126*	-0.377***	-0.064	-0.110	-0.000	0.130	0.281***	0.307***	0.266***	0.220***	0.036	0.177**	-0.292***	1

Note: ***,**,* that the correlation coefficient is significant at the 1%, 5%, and 10% levels, respectively.

We conducted the ordinary least square (OLS) regression estimations using various models to investigate the impact of sentiment and monetary policy changes on tourism firms' stock returns following (Singal, 2012). Employing different models shows the explanatory power of each model and how much the inclusion of other variables into a new model could improve the explanatory power of the previous model. Also, employing various models enables us to select the appropriate and best model to explain the changes in tourism firms' stock returns. A basic model, we regressed $\Delta M2$, ΔIP, ΔEXR, MR, $\Delta USTS$, $\Delta USVIX$, and GFC on TSR to evaluate and understand the relationship between tourism firms' stock returns and changes in economic and tourism industry conditions. Since the study considers the spillover effect of US monetary policy on Mexico tourism stock returns, the addition of $DIFINF$ and $DIFINT$ into the basic model to reflect the expectations on the future real exchange rate between the US dollar and the Mexican Peso and how to which extent those two variables participate in improving the explanatory power of the basic model. In the third model, we added into the model (2.2) $\Delta MONR$ and $\Delta USFFR$ so that we can identify the role of the US and Mexican monetary policy in explaining the changes in Mexico tourism stock returns. In the fourth model, we included $\Delta MABCI$ and $\Delta MACCI$ into the model (2.3). In the last model, we added $\Delta USBCI$ and $\Delta USCCI$ consequently, and we can compare changes in Mexican consumer and business sentiment with changes in the US Mexican consumer and business sentiment in explaining variations in Mexico tourism stock returns. We estimated the following regression models using OLS.

$$TSR_{i,t} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta IP_{i,t} + B_3\Delta EXR_{i,t} + B_4MR_{i,t} + B_5\Delta USTS_{i,t} + B_6\Delta USVIX_{i,t} + B_7GFC_t + \varepsilon_{i,t} \quad (2.1)$$

$$TSR_{i,t} = \alpha_0 + B_1 \Delta M2_{i,t} + B_2 \Delta IP_{i,t} + B_3 \Delta EXR_{i,t} + B_4 MR_{i,t} + B_5 \Delta USTS_{i,t} + B_6 \Delta USVIX_{i,t} + B_7 GFC_t + B_8 DIFINF_{i,t} + B_9 DIFINT_{i,t} + \varepsilon_{i,t} \quad (2.2)$$

$$TSR_t = \alpha_0 + B_1 \Delta M2_t + B_2 \Delta IP_t + B_3 \Delta EXR_t + B_4 MR_t + B_5 \Delta USTS_t + B_6 \Delta USVIX_t + B_7 GFC_t + B_8 DIFINF_t + B_9 \Delta DIFINT_t + B_{10} \Delta MAOVR_t + B_{11} \Delta USFDR_t + \varepsilon_{i,t} \quad (2.3)$$

$$TSR_t = \alpha_0 + B_1 \Delta M2_t + B_2 \Delta IP_t + B_3 \Delta EXR_t + B_4 MR_t + B_5 \Delta USTS_t + B_6 \Delta USVIX_t + B_7 GFC_t + B_8 DIFINF_t + B_9 DIFINT_t + B_{10} \Delta MAOVR_t + B_{11} \Delta USFDR_t + B_{12} \Delta MABCI_t + B_{13} \Delta MACCI_t + \varepsilon_{i,t} \quad (2.4)$$

$$TSR_t = \alpha_0 + B_1 \Delta M2_t + B_2 \Delta IP_t + B_3 \Delta EXR_t + B_4 MR_t + B_5 \Delta USTS_t + B_6 \Delta USVIX_t + B_7 GFC_t + B_8 DIFINF_t + B_9 DIFINT_t + B_{10} \Delta MAOVR_t + B_{11} \Delta USFDR_t + B_{12} \Delta MABCI_t + B_{13} \Delta MACCI_t + B_{14} \Delta MABCI_t + B_{15} \Delta MACCI_t + \varepsilon_{i,t} \quad (2.5)$$

2.5 Results and Discussion

We estimated five regression models represented by equations 2.1, 2.2, 2.3, 2.4, and 2.5 using the OLS method. The results are presented in Table 2.5 the Durbin-Watson (DW) test was applied to detect the existence of autocorrelation problems in the error terms. Since DW is close to 2 for all models, we cannot reject the null hypothesis of "no autocorrelation in error terms," implying that the OLS assumption is approved. The Breusch–Pagan (BP) was used to test whether the variance error term for each model is constant or not. BP test indicates that we reject the null hypothesis of "constant error term variance," signifying that all models suffer from heteroskedasticity problems.

Consequently, we used Newey and West (1987) estimator method to overcome heteroskedasticity problems related to the error terms in all regression models following (Singal, 2012 and Smales, 2016). Besides, the variance inflation factor (VIF)

for each of the explanatory variables is computed to test the existence of a multicollinearity problem further. Table 2.6 indicates that the VIF value is less than 2.704 in the five models estimated in table 5, implying a lack of multicollinearity problem among the independent variables expect between $DIFINT$ and $\Delta MAOVR$ as they display higher VIF values. Since $DIFINT$ is a crucial component to be considered when the spillover effect of US monetary policy being investigating, and also can reflect the Mexican monetary policy according to the purchasing power since the increase in $\Delta MAOVR$ implying an increase in the differential interest rate between Mexico and the USA. Accordingly, the variable $\Delta MAOVR$ will be dropped from models 3, 4, and 5 when Newey and West (1987) estimator method being used for estimation of the regression models, as shown in table 2.7.

We estimated the five regression models represented by equations 2.1, 2.2, 2.3, 2.4, and 2.5 using Newey and West (1987) estimator. The results are presented in Table 2.7. Results indicate that $\Delta M2, \Delta IP, \Delta EXR, \Delta MR, \Delta UST, \Delta USVIX,$ and GFC[1] have a statistically significant effect on TSR, and explains 23.65% of the variance of the TSR. Notably, $\Delta USTS$ positively and significantly influence TSR indicating the importance and role of the American tourist in TSR, since they account for approximately 90% of the total international tourist arrivals to Mexico. Therefore, increasing $\Delta USTS$ increases the Mexican tourism firms' cash flows, leading to higher tourism firm stock prices, and as a result, higher stock returns. This finding is in line with Chen (2015),

[1] We also, examined for the effect of GFC on TSR using the period from 2007m1 to 2008 m12. Results indicated that GFC have the same effect on TSR when the period 2007m2 to 2009 m12 was considered in estimating the five models.

who found a positive effect of international tourist arrivals on the Tawnies hotel stock returns.

Furthermore, $\Delta USVIX$ negatively and significantly influence TSR. This finding indicates that as the US stock market uncertainty increases, the US consumers consider that the economic conditions in the US are (1) unpromising, (2) inducing them to reduce spending on luxurious goods and services in particular tourism services, (3) affect tourism firms' activity in Mexico; the vast majority of total international tourist arrivals are American; thus, the Mexican tourism firms' cash flows tend to decline, which lead to lower these firms' stock prices and hence lower their stocks' returns. This result is in line with Sarwar and Khan (2017); they indicated that since Mexico is the largest trading partner with the US among the Latin American markets, changes in $USVIX$ negatively affect the overall Mexican stock returns. They argued that increasing the US investors' fear represented by the changes in VIX may suggest that the economic and business conditions are unpromising, making the trading relationship between Mexico and the US more likely to deteriorate. This fear is considered bad news and will be transmitted to the Mexican stock market. Therefore, the Mexican overall stock market returns are more likely to decline.

The inclusion of $DIFINF$ and $DIFINT$ into a model (2) improves the explanatory power of the independent variables compared to model (1).The adjusted R^2 rises from 23.65% to 26.05%. $DIFINT$ has a negative and significant effect on TSR, where a 1% change in $DIFINT$ leads to a 0.267% decrease in TSR. This finding is in line with the purchasing power parity and uncovered interest rate parity. As the differential rates between the Mexican and the US real interest widens, foreign capital cash flows to

Mexico are likely to increase, causing a surplus in the Mexican capital account of the balance of payments. As a result, the Mexican Peso real future exchange rate will appreciate against the US Dollar. This finding implies that Mexico, as a tourist destination, might not be attracted to American tourists. Therefore, the American tourist arrivals to Mexico might be reduced, leading to lower future tourism firms' cash flows and lower their stocks' returns. This result is in line with Sui and Sun (2016), who indicated that differential real interest rates between BRICS countries and the US have a negative impact on these countries' overall stock returns.

In model (3), the additions of $\Delta USFDR$ result in an increase in the explanatory power of independent variables to 27.15%. A 1% increase in $\Delta USFDR$ causes TSR to increase by 0.065%, indicating the changes in the US monetary policy are more important than its counterpart in Mexico in explaining variations in TSR in Mexico. This result is in contrast with Heath and Kopchak (2015), who found that the US interest rate changes have a negative effect on Mexico's overall stock returns. They argued that federal fund rate changes have an impact on foreign interest rates, and then according to the stock valuation model, the discount rate at which stock cash flows are discounted will change. Therefore, an increase in the US interest rates would increase the Mexican interest rates, implying that stock future cash flows will cut at higher rates, leading to lower stock prices and lower stock returns. However, changes in the federal fund rate have a positive effect on the Mexican tourism stock returns. This can be attributed to the fact that an increase in the federal fund rate leads to an appreciation in the US Dollar exchange rate against the Mexican Peso, making Mexico more attracted to American tourists. Given that the vast majority of international tourists' arrival to Mexico are from the US, their number will notably increase due to the US Dollar

appreciation against the Mexican Peso. Therefore, the Mexican tourism firms' future cash flows are more likely to grow in a way that offsets the increase in discount rates leading to a rise in tourism firms' stock prices and their returns.

The additions of $\Delta MABCI$ and $\Delta MACCI$ notably improve the adjusted R^2 from 27.15% to 28.85% indicating that these variables added more the explanatory power of the independent variables. $\Delta MABCI$ has positive effects on TSR, where a 1% increase in $\Delta MABCI$ causes TSR to increases by 0.22%. This finding indicates that when producers perceive that economic conditions are promising, tourism firms' managers expect higher demand for their firms' products, inducing managers to expand their firms' capital investment and increase their employees. This leads to higher tourism firms' future cash flows and, thus, higher stock returns. TSR positively and profoundly response to $\Delta MACCI$, where TSR increase by approximately 8.203% for a 1% increase in $\Delta MACCI$ parallel to the findings of Signal (2011) and Chen (2015) who indicate that tourism firms' stock returns and hotels stock return positively linked to consumer sentiment index in the US and Twain respectively. Accordingly, TSR is more sensitive to changes in domestic consumer sentiment compared to local business sentiment in Mexico. This finding is in line with Signal (2011) and Chen (2015), who indicate that tourism firms' stock returns and hotel stock returns are positively linked to the consumer sentiment index in the US and Twain, respectively. Accordingly, TSR is more sensitive to changes in domestic consumer sentiment compared to local business sentiment in Mexico. Unlikely, the inclusion of $\Delta USBCI$ and $\Delta USCCI$ did not enhance the adjusted R^2 of the model (5), yet it slightly dropped from 28.85% to 28.66%. Furthermore, neither $\Delta USBCI$ nor $\Delta USCCI$ has a significant effect on TSR, suggesting that the US consumer and business sentiment have no spillover effects on

TSR. To select which model is appropriate to explain changes in TSR, Akaike's information criteria were used and indicated that model 4 is the suitable model since it has the lowest value (6.251).

Table 2.5: OLS Regression Results

Models	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
α	-0.932 (0.325)	-0.482 (0.607)	-0.288 (0.771)	-1.124 (0.285)	-1.035 (0.327)
$\Delta M2$	2.360 (0.117)	4.498 (0.006)***	4.052 (0.176)	5.415 (0.002)***	5.274 (0.007)***
ΔIP	0.613 (0.156)	0.635 (0.136)	0.548 (0.0164)**	0.608 (0.146)	0.593 (0.156)
ΔEXR	-0.617 (0.000)***	-0.646 (0.000)***	-0.596 (0.000)***	0.541 (0.000)***	-0.518 (0.002)***
MR	0.25 (0.000)***	0.264 (0.000)***	0.238 (0.000)***	0.19 (0.003)***	0.186 (0.004)***
$\Delta USTS$	0.043 (0.021)**	0.0425 (0.023)	0.044 (0.016)**	0.038 (0.035)**	0.038 (0.038)**
$\Delta USVIX$	-0.042 (0.032)**	-0.04 (0.036)**	-0.045 (0.018)**	-0.038 (0.049)**	-0.038 (0.050)**
GFC	-2.149 (0.081)*	-2.882 (0.020)**	-2.366 (0.062)*	1.451 (0.274)	1.234 (0.358)
$DIFINF$		0.384 (0.630)	0.708 (0.373)	0.353 (0.660)	0.553 (0.508)
$DIFINT$		-0.267 (0.003)***	-0.656 (0.002)***	-0.589 (0.006)***	-0.618 (0.004)***
$\Delta MAOVR$			0.379 (0.480)	0.326 (0.880)	0.345 (0.072)*
$\Delta USFDR$			0.064 (0.036)**	0.06 (0.004)***	0.056 (0.007)***
$\Delta MABCI$				0.208 (0.085)*	0.193 (0.113)
$\Delta MACCI$				5.653 (0.112)	7.67 (0.082)*
$\Delta USBCI$					0.757 (0.683)
$\Delta USCCI$					0.104 (0.248)
Adjusted $-R^2$	23.65%	26.05%	28.00%	29.43%	29.34%
F-statistics	12.018 (0.000)	10.744	9.817 (0.000)	8.988 (0.000)	7.892 (0.000)
Durbin-Watson test	1.94	1.99	2.04	2.056	2.057
Breusch-Pagan test	2.036 (0.0513)	2.7 (0.000)	2.827 (0.000)	2.832 (0.000)	2.544 (0.001)
Akaike info criterion	6.307	6.283	6.263	6.251	6.260
Obs.	261	261	261	261	261

Note: The value between the parentheses is P-value. ***, **, * indicates that the coefficient is significant at the 1%, 5%, and 10% levels, respectively. The estimation results are based on Newey and West, (1987) Estimator method.

Table 2.6: Variance Inflation Factors for OLS Regressions

Models	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
$\Delta M2$	0.117	1.346	1.464	1.690	1.718
ΔIP	0.156	1.043	1.049	1.053	1.055
ΔEXR	0.000	1.301	1.340	1.410	1.437
MR	0.000	1.091	1.180	1.288	1.335

$\Delta USTS$	0.021	1.019	1.025	1.041	1.042
$\Delta USVIX$	0.032	1.268	1.278	1.32	1.346
GFC	0.081	1.089	1.180	1.321	1.354
$DIFINF$		1.384	1.414	1.486	1.589
$DIFINT$		1.585	9.223	9.359	9.567
$\Delta MAOVR$			9.180	9.29	9.386
$\Delta USFDR$				1.185	1.200
$\Delta MABCI$				1.322	1.341
$\Delta MACCI$					2.704
$\Delta USBCI$					1.549
$\Delta USCCI$					1.656

Table 2.7: OLS Regressions after Dropping $\Delta MAOVR$

Models	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
α	-0.932 (0.258)	-0.482 (0.572)	-0.882 (0.328)	-1.694 (0.027)	1.632 (0.873)
$\Delta M2$	2.36 (0.074)*	4.498 (0.000)***	4.915 (0.000)***	6.255 (0.000)***	6.145 (0.000)***
ΔIP	0.613 (0.143)	0.635 (0.124)	0.608 (0.136)	0.663 (0.098)*	0.651 (0.106)
ΔEXR	-0.617 (0..000)***	-0.646 (0.000)***	-0.641 (0.000)***	-0.576 (0.000)***	-0.556 (0.000)***
MR	0.250 (0.000)***	0.264 (0.000)***	0.271 (0.000)***	0.215 (0.002)***	0.214 (0.001)***
$\Delta USTS$	0.043 (0.035)**	0.0425 (0.038)**	0.045 (0.025)**	0.039 (0.056)*	0.038 (0.058)*
$\Delta USVIX$	-0.042 (0.008)	-0.040 (0.010)	-0.042 (0.008)	-0.035 (0.025)	-0.035 (0.024)
GFC	-2.149 (0.025)**	-2.882 (0.000)***	-2.158 (0.007)***	-1.203 (0.183)	-0.982 (0.287)
$DIFINF$		0.384 (0.527)	0.605 (0.324)	0.237 (0.707)	0.393 (0.540)
$DIFINT$		-0.267 (0.024)**	-0.268 (0.020)**	-0.255 (0.018)**	-0.263 (0.013)**
$\Delta USFDR$			0.065 (0.007)***	0.062 (0.007)***	0.058 (0.011)**
$\Delta MABCI$				0.221 (0.072)*	0.209 (0.086)*
$\Delta MACCI$				6.13 (0.111)	8.203 (0.065)*
$\Delta USBCI$					0.469 (0.792)
$\Delta USCCI$					-0.098 (0.173)
Adjusted $-R^2$	23.65%	26.05%	27.15%	28.85%	28.66%
F-statistics	12.018 (0.000)	10.744 (0.000)	10.744 (0.000)	9.417 (0.000)	8.146 (0.000)
Akaike info criterion	6.307	6.283	6.271	6.255	6.266
Obs.	261	261	261	261	261

Note: The value between the parentheses is P-value. ***, **, * indicates that coefficient is significant at the 1%, 5%, and 10% level respective. The estimation results are based on Newey and West, (1987) estimator method.

2.5.1 Comparing the Effect of Sentiment with the Effects of Monetary Policy on Tourism Stock Returns

We also extend the analysis by taking separately the impact of sentiment and monetary policy variables on TSR. Results in Table 2.9 indicate that the monetary policy model explains 27.15% of changes in TSR while the sentiment model explains 25.37% of changes in Mexican tourism stock returns. Also, the Akaike info criterion signifies that the monetary policy model is better than the sentiment model. However, model 4 in table 2.8 still the best model comparatively to monetary policy and sentiment models, indicating that momentary policy factors and the domestic sentiment are the best models among all models that have been estimated.

Table 2.8: Variance Inflation Factors

Models	Model(1)	Model(2)	Model(3)	Model(4)	Model(5)
$\Delta M2$	1.457	1.496	1.743	2.836	2.971
ΔIP	1.262	1.311	1.248	1.224	1.345
ΔEXR	1.473	1.664	1.818	1.863	2.066
MR	1.296	1.245	1.255	1.389	1.579
$\Delta USTS$	1.122	1.126	1.108	1.111	1.219
$\Delta USVIX$	1.485	1.583	1.669	1.828	1.904
GFC	1.185	1.173	1.424	2.102	2.429
$DIFINF$		1.351	1.426	1.74	1.874
$DIFINT$		1.683	1.711	2.157	2.174
$\Delta USFDR$			1.584	1.716	1.662
$\Delta MABCI$				1.963	1.978
$\Delta MACCI$					4.293
$\Delta USBCI$					1.945
$\Delta USCCI$					1.756

Table 2.9: Comparative Regressions for the Effects of Sentiment and Monetary Policy

Models	Monetary policy model	VIF	Sentiment Model	VIF
A	-0.882 (0.328)	NA	-1.719 (0.016)**	NA
$\Delta M2$	4.915 (0.000)***	1.743	3.592 (0.018)**	2.175
ΔIP	0.608 (0.136)	1.248	0.649 (0.000)***	1.263
ΔEXR	-0.641	1.818	-0.528	1.841

	(0.000)***		(0.006)***	
MR	0.271 (0.000)***	1.255	0.197 (0.078)***	1.599
$\Delta USTS$	0.045 (0.025)**	1.108	0.036 (0.021)***	1.22
$\Delta USVIX$	-0.042 (0.008)***	1.669	-0.035 (0.446)	1.66
GFC	-2.158 (0.007)***	1.424	-0.778 (0.466)	2.099
$DIFINF$	0.605 (0.324)	1.426		
$DIFINT$	-0.268 (0.020)**	1.711		
$\Delta USFFR$	0.065 (0.007)***	1.584		
$\Delta MABCI$			0.206 (0.083)*	1.384
$\Delta MACCI$			9.281 (0.039)**	3.378
$\Delta USBCI$			0.150 (0.932)	1.687
$\Delta USCCI$			0.123 (0.103)	1.703
Adjusted –R^2	27.15%		25.37%	
F-statistics	10.744 (0.000)		8.691 (0.000)	
Akaike info criterion	6.271		6.299	
Obs.	261		261	

Note: The value between the parentheses is P-value. ***, **, * indicates that the coefficient is significant at the 1%, 5%, and 10% levels, respectively. The estimation results are based on Newey and West, (1987) estimator method.

2.5.2 Robustness Tests

To provide a robust check for all model results, we examined if all regression model findings in table 2.7 hold when the real or excess tourism firms' stock returns are being used instated of nominal returns following Chen (2010). As a result, the real tourism firms' stock returns are computed as follows:

$$RTSR_t = TSR_t - INFR_t \quad (2.6)$$

Where: $RTSR_t$ is the real tourism firms' stock returns at time t, TSR_t is the nominal tourism firms' stock returns at time t, $INFR_t$ is the inflation rate calculated from the consumer price index. Results in table 2.10 indicate that all regression models (1 to 5) are robust since all regression models' coefficients had the same signs and significance as when nominal tourism firms' stock returns were used.

Table 2.10: OLS Regression for Robust Checks Using $RTSR_t$ as a Dependent Variable

Models	Model 1	Model 2	Model3	Model 4	Model 5
α	-1.157	-0.661	-1.048	-1.905	-1.837
	(0.169)	(0.438)	(0.244)	(0.043)**	(0.054)*
$\Delta M2$	1.988	4.546	4.950	6.369	6.245
	(0.149)	(0.002)***	(0.000)***	(0.000)***	(0.000)***
ΔIP	0.600	0.625	0.598	0.654	0.643
	(0.157)	(0.128)	(0.139)	(0.100)	(0.108)
ΔEXR	-0.606	-0.639	-0.631	-0.565	-0.546
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
MR	0.043	0.258	0.265	0.207	0.206
	(0.000)***	(0.000)***	(0.000)***	(0.002)***	(0.002)***
$\Delta USTS$	0.043	0.043	0.045	0.039	0.039
	(0.036)**	(0.033)**	(0.022)**	(0.052)*	(0.054)*
$\Delta USVIX$	-0.042	-0.041	-0.043	-0.035	-0.036
	(0.009)***	(0.008)	(0.007)***	(0.024)**	(0.029)**
GFC	-2.087	-2.943	-2.242	-1.232	-1.010
	(0.037)***	(0.000)***	(0.006)***	(0.171)	(0.271)
$DIFINF$		-0.216	-0.002	-0.392	-0.253
		(0.722)	(0.998)	(0.542)	(0.697)
$DIFINT$		-0.285	-0.287	-0.273	-0.279
		(0.017)**	(0.014)**	(0.012)**	(0.009)***
$\Delta USFFR$			0.063	0.059	0.055
			(0.009)***	(0.009)***	(0.015)**
$\Delta MABCI$				0.223	0.212
				(0.067)*	(0.078)*
$\Delta MACCI$				6.568	8.724
				(0.089)*	(0.051)*
$\Delta USBCI$					0.314
					(0.860)
$0\Delta USCCI$					-0.097
					(0.172)
Adjusted $-R^2$	23.05%	26.71%	27.71%	29.60%	29.38%
F-statistics	11.660	12.143	10.548	9.725	8.401
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Akaike info criterion	6.321	6.271	6.270	6.251	6.262
Obs.	261	261	261	261	261

Note: ***, **, * indicates that coefficient is significant at the 1%, 5%, and 10% level respectively. Results are based on Newey and West (1987) repression method estimator.

To provide another robust check, we run all regression models in table 2.7 based on the capital asset pricing model ($CAPM$) by regressing the excess returns of tourism firms' stocks on all independent variables. Still, we replaced MR with the overall excess stock market returns. The excess returns on tourism firms' stocks and overall stock market are computed as follows:

$$EXTSR_t = TSR_t - RF_t$$

$$EXMR_t = MR_t - RF_t$$

Where: $EXTSR_t$ represents the excess returns on tourism firms' stocks at time t, TSR_t is the nominal returns on tourism firms' stocks at time t, RF_t is the rate on free risk asset proxied by the Mexican Federal 91- Treasury Certificates at time t, $EXMR_t$ is the excess returns on the overall stock market. Regression results in table 10 suggest that all regression models represented by equations 2.1 to 2.5 are robust.

Table 2.11: OLS Regressions for Checking Results Based on CAPM

Models	Model 1	Model 2	Model 3	Model4	Model 5
α	-3.022 (0.006)***	-0.418 (0.642)	-0.751 (0.429)	-1.496 (0.141)	-1.474 (0.143)
$\Delta M2$	0.340 (0.861)	3.810 (0.003)**	4.169 (0.002)***	5.365 (0.001)***	5.351 (0.000)***
ΔIP	0.258 (0.614)	0.539 (0.169)	0.516 (0.219)	0.559 (0.174)	0.553 (0.182)
ΔEXR	-0.459 (0.004)***	-0.579 (0.000)***	-0.574 (0.000)***	-0.510 (0.000)***	-0.490 (0.000)***
$EXMR$	0.666 (0.000)***	0.270 (0.000)***	0.279 (0.000)***	0.230 (0.000)***	0.219 (0.000)***
$\Delta USTS$	0.041 (0.065)*	0.043 (0.034)**	0.046 (0.024)**	0.040 (0.051)*	0.040 (0.052)*
$\Delta USVIX$	-0.049 (0.034)**	-0.045 (0.006)***	-0.047 (0.005)***	-0.040 (0.016)**	-0.039 (0.017)**
GFC	-3.903 (0.037)	-3.833 (0.000)***	-3.243 (0.000)***	-2.431 (0.388)	-2.244 (0.339)
$DIFINF$		0.730 (0.253)	0.910 (0.175)	0.594 (0.388)	0.865 (0.235)
$DIFINT$		-1.125 (0.000)***	-1.116 (0.000)***	-1.162 (0.000)***	-1.189 (0.000)***
$\Delta USFDR$			0.052 (0.028)**	0.048 (0.037)**	0.044 (0.056)***
$\Delta MABCI$				0.197 (0.076)*	0.178 (0.087)*
$\Delta MACCI$				5.724 (0.085)*	7.095 (0.075)*
$\Delta USBCI$					1.609 (0.376)
$\Delta USCCI$					-0.097 (0.196)
Adjusted – R^2	45.16%	62.52%	62.82%	63.49%	63.52%
F-statistics	30.292 (0.000)***	47.158 (0.000)***	43.073 (0.000)***	37.089 (0.000)***	31.969 (0.000)***
Akaike info criterion	6.661	62.288	62.284	62.27	6.280
Obs.	261	261	261	261	261

Note: ***, **, * indicates that coefficient is significant at the 1%, 5%, and 10% level respectively. Results are based on Newey and West (1987) repression method estimator.

2.6 Conclusion

This study considered the role of sentiment and monetary policy changes (both domestic and the US) in explaining the changes in the tourism firms' stock returns in Mexico as the top Latin American tourism destinations during the period 1998M03-2019M12. Findings indicate that $DIFINT$ negatively affects TSR, suggesting that as the momentary divergence between Mexico and the US widens, the tourism firms' stock returns shrink. This reflects a higher degree of financial integrations between Mexico and the US, which influences the Mexican tourism firm's stock returns. Also, we document that TSR is significantly and positively driven by $\Delta MABCI$ and $\Delta MACCI$ with a high response to the latter. However, $\Delta USBSCI$ and $\Delta USCCI$ insignificantly affect TSR.

Furthermore, neither the sentiment model nor monetary policy model could separately and thoroughly explain the changes in TSR. Still, the monetary policy and domestic sentiment model was the best model to explain the changes in TSR. Our findings are robust when different measures of tourism firms' stock returns are used. More specifically, the significance and signs of all indecent variable coefficients in all models did not change when real returns and excess returns were used instead of tourism firms' stock returns' nominal returns.

Our findings have important implications for investors (both Mexican and foreign) who seek to invest in the Mexican tourism stocks and tourism business managers. Since Mexican business and consumer sentiment changes significantly affect Mexican tourism stock returns and are identified on an ex-ante basis, they are forward-looking indicators. Investors can use Mexican business and consumer sentiment changes as an

investment strategy. They increase their holding of Mexican tourism firm stocks in times of higher business and consumer sentiment and do reverse strategy in times of lower business and consumer sentiments. Furthermore, Investors should incorporate the spillover impact on the US monetary changes and interest rate differential between Mexico and the US with the market and macroeconomic conditions in making tourism stock investment decisions. Also, the success of the secondary-equity offering by a firm depends on the firm's current stock price performance. Thus, better performance of tourism firms' stock returns at a higher level of domestic economic agent and increasing US interest rate implies that tourism firms have the opportunity to raise the higher amount of funds to purchase capital goods and finance expansion plans. Therefore, tourism business managers should consider domestic sentiment and the US monetary policy changes in making their financing decisions. Given the differences between financial and economic integration between the US and other countries, the significant influence of the US monetary policy on tourism firms' stock returns may vary. Future research can investigate whether the considerable effects of the US monetary policy on tourism stock returns are general findings or peculiar to the Mexican tourism sector.

Chapter 3

EFFECTS OF BUSINESS AND FINANCE CONDITIONS ON TOURISM FIRMS' FINANCIAL PERFORMANCES: EVIDENCE FROM MAJOR TOURIST DESTINATIONS

3.1 Introduction

Researchers have extensively studied the financial or business performance of firms. In the relevant literature, stock price movements are proxies for forecasting financial performance likely to be affected by the business environment and countries' macroeconomic trends (Hadi et al., 2019; Katircioglu et al., 2018a; Chen, 2010; 2007b; 2005; Chen et al., 2005). As Chen (2007b) mentioned, firms' stock prices need to reflect their real-market values and actual financial performance, as per the efficient market's theory. Therefore, close connections between firms' stock movements, business conditions, and macroeconomic developments should be expected. Recent studies have shown that a positively high correlation exists between business conditions and the financial performance of firms (Shaeri & Katircioglu, 2018; Chen, 2007b; Jeon et al., 2004).

On the other hand, underlying stock valuation states that the stock price reflects all investors' expectations about a firm's future earnings. Stock price variations related to business conditions change in terms of their impact on firms' earnings and dividends (Chen et al., 1986; Campbell, 1987; Fama and French, 1988; Asprem, 1989;

Wasserfallen, 1989; Booth and Booth, 1997; Chen. N, 1991; Jensen et al., 1996). A growing number of studies have shown that stock prices systematically respond to changes in macroeconomic conditions. Wasserfallen (1989) shows that increased economic activity increases a company's expected future cash flow. Asprem (1989) shows that real economic activity (industrial production, GDP, and exports) positively affects stock price changes in European countries. Fama (1981) finds a negative association between stock returns and inflation, a positive association between stocks and real economic activity, and an inverse relationship between inflation and real economic activity. Fama (1981) suggests that real income growth drives stock prices and stimulates demand for cash flows. Following growth in income and improved business conditions, the earnings and dividends of firms are more likely to increase; thus, investors ' expectations about future corporate earnings tend to increase (Chen, 2010).

Tourism has recently become the fourth biggest export industry globally, following fuels, food, and chemicals. According to the World Tourism Organization (WTO, 2019), international tourism expenditures increased by (7%) from USD 452 billion in 1995 to USD 1.323 trillion in 2017, with international tourism generating USD 1.6 trillion in export earnings. Furthermore, according to the World Travel and Tourism Council (WTTC, 2019), the overall travel and tourism contributions to GDP were USD 8.810 billion (10.4% of GDP) in 2017. The key reason for this growing interest is the crucial role of the tourism sector in boosting economic growth. For instance, first, tourism increases foreign exchange earnings, which helps introduce new technology for productivity (McKinnon, 1964). Second, tourism encourages investment in new infrastructure and creates new job and employment opportunities (Blake et al., 2006).

Third, inbound tourism promotes industrial development through spillover effects (Cernat & Gourdon, 2012).

Financial development (FD) can influence the tourism sector through favorable business conditions (BCs). Katircioglu et al. (2018a) indicated a bidirectional interaction between growth in tourism and financial development in Turkey. Furthermore, Shahbaz et al. (2017) examined Malaysia's tourism growth by incorporating FD and trade openness. Their results show the existence of bidirectional causality between tourism, FD, and trade openness. Moreover, Ohlan (2017) demonstrated a long-term relationship between tourism and economic growth in India when considering the importance of FD. Therefore, changes in FD will affect tourism firms' stocks, as the later affects the tourism firm's performance. Başarir and Çakir (2015) found a causal relationship among tourism, FD, energy consumption, and carbon emission in Turkey, France, Spain, and Greece. By establishing well-developed financial sector facilities, tourism firms may be able to more easily finance their investment operations, which, in turn, will lead to increases in not only cash flows but also their stock prices and returns. Changes in BCs are likely to influence tourism sector growth, as documented in the relevant literature (Chen, 2007b). A favorable business climate contributes to increasing firm sales and, therefore, income, which positively affects firm stocks. However, if their business conditions worsen, firms' earnings and dividends are likely to decline, which leads to lower firm stock prices (Harvey, 1991). On the other hand, firms' financial success can help boost economic conditions by providing more job opportunities and business income in the country (Jeon et al., 2004).

Although many studies have established a relationship between macroeconomic factors and stock returns, even in the case of the tourism, leisure, and hospitality industries, the interaction between the financial sector and the tourism, leisure, and hospitality industries has not yet received sufficient attention. Therefore, this study aims to investigate the effects of BCs and the financial sector on the stock performance of tourism, hospitality, and leisure firms operating in significant tourist destination countries. Therefore, this study proposes that business and finance environments are likely to impact the stock prices of tourism, hospitality, and leisure firms that operate in major tourist destinations. The major tourist destinations in this study were selected based on the ranking of the United Nation's World Tourism Organization (UNWTO, 2019). The contribution of this research to the current literature is threefold. To the best of our knowledge, this is the first study that explores and outlines the relative importance of changes in BCs and FD in order to explain the financial performance of tourism firms' stock prices among the top eight tourism destination countries such as (France, USA, Spain, China, UK, Germany, Mexico, and Thailand) by including an important factor, tourism growth, in our analysis. First, this study extends Chen's work (2007b) by analyzing the impact of BCs on the entire tourism firm stock index, which takes into account various tourism sectors in the industry, such as airlines, travel and tourism, gambling, restaurants, and bars, leisure services, and hotels, providing a comprehensive picture of the effect of BCs on the tourism industry. Second, there has been no previous research analyzing the effect of FD on tourism firms' stock price index. However, for example, Shahbaz et al. (2017) and Katircioglu (2017) investigated the effect of FD on tourism growth (international tourist arrivals). Third, we fill the gap in the tourism literature by using a newly developed panel-based model

of first- and second-generation econometrics to analyze the impact of BCs and FD on top tourism destination countries.

This study is organized as follows: Section 2 presents the literature review; Section 3 describes the data and model specification; Section 4 presents the methodology and proposed methods used in this study; Section 5 presents results and discussions; Section 6 concludes the study.

3.2 Literature Review

3.2.1 Impact of Macroeconomic Variables and Business Conditions on the Tourism Sector

Many previous studies analyze the effects of macroeconomic variables as key factors that affect the stock returns of tourism and hospitality firms. Barrows and Naka (1994) considered the earliest empirical study that examined the impact of five macro factors (inflation rate, money supply, domestic consumption, interest rate, and industrial production) on US hospitality stock returns from 1965 to 1991. The results indicated that the return on hospitality stocks is positively correlated with the money supply and domestic consumption growth rate and negatively correlated with the expected inflation rate. In the same vein, Chen et al. (2005) studied the effect of economic and non-economic variables on hotel stock returns in Taiwan. The various regression tests show that only the money supply growth rate and the unemployment rate can explain the movement of the Taiwanese hotels' stock returns among the macroeconomic variables (i.e., industrial production growth, the growth rate of money supply, expected inflation, unemployment rate, and yield spread). Likewise, Wong and Song (2006) reported that interest rates account for a considerable proportion of the volatility in stock indices in the tourism subsector, namely casino, hotel, and restaurant indices.

Chen (2007b) investigated the interaction between the business conditions and financial performance of tourism firms in China and Taiwan. Gross domestic product and industrial production were selected as proxies for business conditions. The empirical results showed that tourism firms' business conditions and financial performance are strengthening each other in both countries. Chen (2007c) also investigated the impact of tourism sector growth, measured by foreign tourist arrivals and some extreme events, including natural disasters, sports activity, war, financial crisis, terrorist attacks, and political events, on Chinese hotel stock returns. The results indicated that the return of hotel stocks is more susceptible to changes in macroeconomic variables and natural disasters than increases in the number of foreign tourists. Besides, Chen et al. (2010) indicate that the expansion of tourism, determined by the growth rate of international tourist arrivals, directly affects the performance of tourism stocks. This result has shown that the growth of tourism will dramatically increase the corporate income of tourism companies.

In the same way, Chen (2010) examined the effect of macroeconomic and tourism growth on various areas of corporate performance in the hotel industry, determining that the development of tourism has a major influence on the hotel industry's performance, as it can significantly promote economic conditions. Moreover, Chen et al. (2012) stated that only the unemployment rate, oil price, and money supply could explain the changes in hotel stock returns in Japan among the conventional macroeconomic factors. Lastly, the findings of Hadi et al. (2020) showed that long-term relationships exist between macroeconomic factors, industrial production, commercial and industrial loans, and foreign arrivals to tourism firms' stock prices in the United States.

In comparison, few studies have incorporated other indicators with macro-economic variables capable of explaining changes in tourism stock performance, such as consumer sentiment, the consumer confidence index, and corporate governance, in their analyses. For example, Singal (2012) studied the influence of consumer sentiment and included macro explanatory variables as control variables on hospitality stock returns in the US. The findings revealed that consumer sentiment could explain a substantial part of the future growth of expenditures in hospitality. Furthermore, the result showed a weaker relationship between changes in traditional macro variables and hospitality industry stock returns. Demir et al. (2017) used macroeconomic variables, namely consumer price index, imports, exchange rate, the consumer confidence index, oil price, money supply, foreign tourist arrivals, and added stock market returns, as another explanatory variable for Turkish tourism firms (BIST). Because of the presence of structural breaks in their series, four different models were estimated, and the study reported a mixed result regarding the impact of the explanatory variables on tourism firms' stock returns. Lastly, Al-Najjar (2014) studied the effect of measured (size, board) corporate governance on the performance of tourism firms in five middle-eastern countries. His results underlined that corporate governance plays a vital role in explaining the performance of tourism firms. Specifically, the profitability indicator return on assets and equity (ROA and ROE) results were statically significant.

3.2.2 Impact of Financial Development in the Tourism Sector

Another stream of literature explicitly focused on the role of financial development and the tourism sector, a few studies briefly listed below. For example, Kumar and Kumar (2013) studied the causal relationship between tourism and economic activity and financial development and urbanisation in Fiji from 1981 to 2009. The results

revealed that financial development plays a vital role in the tourism industry. Similarly, Basarir and Cakir (2015) explored the same relationship between financial development and the Turkish tourism sector and four other European Union countries from 1950-2010. The causality results showed a uni-directional link between financial development and the tourism sector in these countries. In addition, Shahbaz et al. (2017) also confirmed previous studies by finding a uni-directional relationship between the tourism industry and financial growth in Malaysia. In the same vein, Katircioglu (2017) studied the interaction between Turkey's tourism growth and financial development. International tourist arrivals were considered a proxy for tourism growth, and a composite financial development index was developed through five main variables to measure the financial sector's performance. Besides, foreign direct investment (FDI) and trade openness were examined. The study's main finding was that the financial sector has a high and positive impact on tourism development; however, FDI and trade openness play a major role in developing the tourism sector in Turkey. Lastly, Ohlan (2017) investigated the impact of financial development and tourism growth on economic growth. Furthermore, the empirical ARDL results demonstrated that there is both long- and short-term cointegration between financial development, tourism growth, and economic growth in India.

As stated in the majority of previous studies, it has been highlighted that the effect of macroeconomic factors on the hospitality sector, and despite numerous studies investigating the influence of financial development on the growth of the tourism sector, no empirical studies have explicitly been conducted to investigate the impact of business conditions and financial development on the tourism sector in a detailed, precise manner. Consequently, in light of these knowledge gaps, this study contributes

to the literature by examining the long-term relationship between business conditions and financial developments in top tourism destination countries, such as France, the U.S., Spain, China, the U.K., Germany, Mexico, and Thailand.

3.3 Data and Model Specification

3.3.1 Data Description

3.3.1.1 The Dependent Variable

The data used in this paper is quarterly figures from the top 8 tourist destination countries (France, the U.S., Spain, China, the U.K., Germany, Mexico, and Thailand), which were selected based on international tourist arrivals between 2004 Q1 and 2018 Q4. In addition, the tourism firms' stock index prices, reflecting the stock financial performance of listed tourism firms in the stock exchange market, such as airlines, travel and tourism, gambling, restaurants and bars, recreation services, and hotels following (Demir et al., 2017; Hadi et al., 2019). The selection of both the data period and countries was based on data availability. The dependent variable is the Tourism Stock Index (TSI); we used tourism firms' stock price index to proxy their respective financial performance, which is summarised in Table 3.1. TSI data was gathered from Thomson Reuters' Data Stream and EIKON.

Table 3.1: Stock Indices in the Tourism, Hospitality, and Leisure Industries

Countries	International tourist arrivals in (million)	Tourism Stock Index
1. France	82.6	FTSE Travel & Leisure
2. USA	75.6	Dow Jones Travel & Leisure
3. Spain	75.6	BCN 5 Commerce Leisure and Tourism
4. China	59.3	FTSE Travel & Leisure

5. UK	35.6	FTSE 350 Travel & Leisure
6. Germany	35.6	FTSE Travel & Leis - Price Index
7.Mexico	35	DS Travel & Leisure price index
8.Thailand	32.6	SE Tourism & leisure

Source: Tourism Organization United Nations (UNWTO 2019).

3.3.2 Independent Variables

First, business conditions in the studies of Chen (2007b) were proxied by overall macroeconomic activity, gross domestic product (GDP), and industrial production (IND). IND closely tracks the country's manufacturing sector efficiency, whereas GDP tracks manufacturing and other service sectors. The variables GDP and IND are at constant 2010 USD prices and gathered from Thomson Reuters' Data Stream and EIKON. Besides, according to Cobb-Douglas growth functions and macroeconomic theory, two other measurements for BCs can be used, such as gross capital formation and overall labour force (GFC, LABOR). Data regarding GFC and LABOR were obtained from the International Monetary Fund (IMF, 2019).

Second, many studies have suggested broad money supply (M2) and domestic credits of the banking sector (DC) to be used as proxies for financial development (Shahbaz et al., 2017; Katircioglu, 2017); therefore, the variables M2—as a percentage of GDP (M2/GDP)—and DC as a percent of GDP (DC/GDP)—were also gathered from Thomson Reuters' Data Stream and EIKON to proxy financial development in this study. Third, control variables (CV), the consumer price index, and the exchange rate (CPI, RER) are two significant factors that determine the stock price of tourism firms and are extensively used in previous research, such as Barrows and Naka, 1994; Chen

et al., 2005; Chen et al., 2012; and Demir et al., 2017. CPI and RER were collected from Thomson Reuters' Data Stream and EIKON. Next, international tourist arrivals (TA) were used in this study as an indicator of tourism growth, as per prior studies (Katircioglu, 2009a; Chen, 2007a; Chen, 2007c; Chen et al., 2010; Demir et al.,2017), while TA data was obtained from the World Tourism Organization (UNWTO, 2019). Finally, we created a dummy variable to capture the financial crisis (FC) effect by taking the value of one during the period 2007M02 to 2009M12 and zero otherwise (Ersan et al., 2019). All series are at their natural logarithms in the empirical analyses in this study.

3.3.3 Model Specification

This article suggests that BCs and FD are significant contributors to tourism firms' stock prices in major tourist destinations. Therefore, a functional relationship is established in this study in parallel to those in the relevant literature (Chen, 2007b; Shahbaz et al., 2017; Katircioglu, 2017). It is expected that BCs and FD. Exert significant effects on tourism firms' stock performances. Then, the following functional relationship is proposed in this study:

$$TSI = f(BC, FD; CV) \quad (3.1)$$

$$TSI_{i\tau} = f\left(GFC_{i\tau}^{\beta 1}, LABOR_{i\tau}^{\beta 2}, GDP_{i\tau}^{\beta 3}, IP_{i\tau}^{\beta 4}, CPI_{i\tau}^{\beta 5}, RER_{i\tau}^{\beta 6}, M2_{i\tau}^{\beta 7}, DC_{i\tau}^{\beta 8}, TA_{i\tau}^{\beta 9}, FC_{i\tau}^{\beta 10}\right) \quad (3.2)$$

Where TSIt is tourism firms' stock price in period t; GCFt is the gross capital formation in period t; LABORt is the overall labour force in period t; GDPt is a gross domestic product in period t; IPt is industrial production in period t; CPIt is consumer price index in period t; and RERt is real exchange rates in period t; M2t is money supply in period t; DCt is a credit to the private sector in period t; TAt is international tourist arrivals in period t; FCt is financial crises in period t. Equation (3.2) will then be

expressed in the logarithmic form in order to capture the growth effects in the long term.

$$lnTSI_{i\tau} = \beta_0 + \beta_1 lnGFC_{i\tau} + \beta_2 lnlABOR_{i\tau} + \beta_3 lnGDP_{i\tau} + \beta_4 lnIP_{i\tau} + \beta_5 lnCPI_{i\tau} + \beta_6 lnRER_{i\tau} + \beta_7 lnDC_{i\tau} + \beta_8 lnM2_{i\tau} + \beta_9 lnTA_{i\tau} + \beta_{10} lnFC_{i\tau} + \varepsilon_{i\tau} \quad (3.3)$$

where i denotes the country (i = 1,…8), and t denotes the time period (t = Q1,2004,…Q4, 2017); The parameters of β_1, β_2, β_3 and β_{10} are the coefficients of the regressors, "ln" stands for the natural logarithm of the regressors, and ε is the error-disturbance.

3.4 Methodology

This section of the study explains how the empirical panel method is applied, i.e., through a cross-sectional dependency test, panel unit root tests, a panel cointegration test, a long-run panel estimation, and a panel Granger causality test.

3.4.1 Cross-Sectional Dependence Test

The critical issue with panel data analysis is to check the cross-sectional dependency (CSD) due to rapid globalisation and the expanding liberalisation of market growth, which have led to greater interdependence between countries. Thus, a CSD test for the panel is expected. O'Connell (1998) and Pesaran (2006) argue that ignoring CSD would lead to an over-rejection of our hypothesis while implementing the panel unit root test, which led to severe biases and size distortions and led to inconsistent results findings. Therefore, both the Breusch and Pagan (1980) Lagrange multiplier (LM) test and the Pesaran (2004) cross-section dependency (CD) test were used in our research. Besides, we conducted the LM-adj test by Pesaran et al. (2008) to check for robustness and prevent misleading results (Hsueh et al., 2013). For these three CSD tests, the null and alternative hypotheses can be represented as follows:

- H_0: There is no cross-sectional dependency.
- H_1: There is cross-sectional dependency.

The rejection of the null hypothesis indicates the existence of CSD in the panel model.

3.4.2 Slope Homogeneity Test

We then proceeded to examine the slope of homogeneity following a study by Blackburne and Frank (2007). The slope homogeneity method was employed in this study as Swamy (1970) established and suggested by Pesaran and Yamagata (2008). They demonstrate that the presence of slope homogeneity in the estimated panel model is anticipated with biased results. Moreover, Pesaran et al. (2008) state that there is a big chance that the panel estimated model suffers from having slope heterogeneity due to astronomical cross-sectional observations. To examine the slope of homogeneity for a standardised distribution, the statistic is estimated by ($\tilde{\Delta}$) and also in case of a small sample ($\tilde{\Delta}$-adj) has been tested. Therefore, the following hypothesis is presented for the Swamy (1970) test:

- $H_0: \beta_1 = \beta$
- $H_1: \beta_1 \neq \beta$

The rejection of the null hypothesis in the estimated panel model indicates the presence of slope of heterogeneity coefficients.

3.4.3 Panel Unit Root Test

Next, after checking for CSD and slope of homogeneity, we carried out a second-generation panel unit root test, such as augmented IPS (CIPS) and augmented Dickey-Fuller (CADF) tests introduced by Pesaran (2007), to determine the order of integration between the variables concerned in the panel equation (3.3). The CIPS and

CADF monitor the issue of CSD and the heterogeneity of slopes, as compared to the first generation panel unit root test. Consequently, the results derived from these approaches are more consistent and reliable. The following hypothesis for both tests (CIPS and CADF) was as follows: the null hypothesis is that all the individuals within the model are not stationary. The alternative hypothesis is that at least one individual is stationary within our panel model equation (3.3).

3.4.4 Panel Cointegration Test and Estimation of Long-Run Coefficients

In order to test the long-run equilibrium linkage between BCs, FD, and TSI, we employed the second-generation panel cointegration test suggested by Westerlund (2007) based on the further existence of a potential issue characterised by CSD and the slope of heterogeneity in the panel data analysis. The Westerlund cointegration based on the error correction model (ECM) test proposes two different tests to explore the alternative cointegration hypothesis for the whole panel (Gt and Ga), while the alternative is considered for evaluating the two other tests (Pt and Pa) by cointegrating at least one cross-cutting unit. The first two tests are called group statistics, and the other two tests are called panel statistics. Rejection of the null hypothesis implies that the series is not cointegrated, whereas the alternative hypothesis is that there is cointegration between the series. For further robustness check, we also applied the Kao cointegration test proposed by Kao (1999); this test analyses the homogeneous cointegration relationship for individual fixed effects with a pooled regression. Next, confirming the cointegration relationship among the variables' enabled us to estimate the long-run coefficients of each independent variable in terms of the dependent variable: TSI. The long-run coefficients were estimated by the dynamic ordinary least squares (DOLS) method developed by Pedroni (2001). Lee (2007) notes that the FMOLS (fully modified ordinary least squares) and DOLS approaches are introduced

as alternatives to the OLS method since simple OLS generates false standard errors subject to second-order asymptotic bias. Besides, on the other hand, Kao and Chiang (2001) state that the DOLS works better in small samples than the FMOLS and OLS approaches in terms of panel data analysis.

Moreover, Narayan and Smyth (2007) argue that the DOLS generates stable coefficient estimates of independent variables in small samples, accounting for potential endogeneity and serial correlation issues. Therefore, the DOLS produces unbiased coefficient estimates (Pedroni, 2001). Due to the comparatively small size of our sample group, this research study utilised the DOLS method (Pedroni, 2001).

3.4.5 Dumitrescu–Hurlin Panel Granger Causality Tests

As a final step, the causal effect of BCs and FD on top destination tourism firm stocks, from incorporating control variables and tourism growth (TA), was explored using the Dumitrescu–Hurlin Causality (DHS) Test panel (Dumitrescu and Hurlin, 2012). The Dumitrescu–Hurlin causality was selected among other causality tests due to its superiority over traditional panel causality tests. The causality test of DHS has the following advantages: first, it can be applied to both the existence and absence of cointegration in the panel data model. Second, it takes into account both CDS and slope of homogeneity issues in the panel series. Third, the DHS provides a relatively unbiased result for unbalanced and small sample sizes in the panel data sets. Thus, the null and alternative hypothesis are as follows:

- H0: $\beta i=0$, $i = 1,\ldots, N$
- H1: $\beta i=0$, $i = 1,\ldots,N1$; $\beta i\neq 0$, $i = N1 +1, N1+ 2, \ldots, N$

Based on the coefficients of an average Wald statistic, rejection of the null hypothesis demonstrates a causal link between at least one subgroup of the panel.

3.5 Results and Discussion

We highlighted the pattern of the analysis, which will be discussed in this section. Table 3.2 provides the summary statistics of the tourism firms' stock price indices and the nine explanatory variables. The TSI ranged from 10.22% to 3.35%, with a mean of 6.16%. Among the nine variables, TA, M2, and LABOR were more volatile than TSI in terms of their standard deviation. Table 3.3 displays the results of the correlation matrix among the panel series. Correlations among the variables are relatively low, in general. Therefore, there is no severe multicollinearity problem in the estimation model.

Table 3.2: Descriptive Statistics

	TSI	GFC	LABOR	GDP	IND	CPI	RER	DC	M2	TA
Mean	6.16	3.06	11.8	12.1	4.63	4.63	2.21	4.79	13.2	12.4
Median	5.73	3.09	10.6	12.6	4.62	4.62	2.22	5.12	13.7	12.2
Maximum	10.2	3.71	20.4	16.8	4.91	5.49	4.65	5.38	22.7	18.2
Minimum	3.35	2.27	9.91	6.40	4.30	4.03	0.08	3.16	7.24	6.77
Std. Dev.	1.81	0.21	3.29	2.85	0.10	0.32	1.71	0.57	4.13	4.25
Skewness	0.68	-0.13	2.15	-0.55	0.06	1.49	0.06	1.69	0.85	0.11
Kurtosis	2.24	3.75	5.83	2.74	4.18	4.87	1.42	4.84	3.42	1.37
Observations	448	448	448	448	448	448	448	448	448	448

Note: TSI= tourism firms' stock indices; GFC= gross fixed capital formation; LABOR= labor force; GDP= gross domestic product; IND= industrial production; CPI= consumer price index; RER= real exchange rate; DC= credit to private sector; M2= money supply; TA= international tourist arrivals.

Table 3.3: Correlation Matrix

	TSI	GFC	LABOR	GDP	IND	CPI	RER	DC	M2	TA
TSI	1									
GFC	-0.330	1								
LABOR	0.676	-0.116	1							
GDP	0.207	0.249	-0.139	1						
IND	0.272	0.223	0.327	0.141	1					
CPI	0.039	-0.153	0.142	-0.513	-0.008	1				
RER	0.552	-0.192	0.029	0.244	-0.100	0.328	1			
DC	0.062	0.188	-0.238	0.706	0.023	-0.595	0.096	1		
M2	0.119	-0.206	0.103	-0.452	0.250	0.421	-0.087	-0.670	1	
TA	0.191	0.086	0.511	-0.163	0.189	0.421	-0.071	-0.415	0.370	1

Note: TSI= tourism firms' stock indices; GFC= gross fixed capital formation; LABOR= labor force; GDP= gross domestic product; IND= industrial production; CPI= consumer price index; RER= real exchange rate; DC= credit to private sector; M2= money supply; TA= international tourist arrivals.

Since testing for CSD in panel data is essential to assess the estimation method, it is also a suitable methodology technique for panel data analysis. Table 3.4 highlights the results for the Breusch and Pagan's (1980) LM, Pesaran's (2004) LM CD, and Pesaran et al. (2008) LM tests. Table 4 shows that the CSD statistics for TSI, GFC, LABOR, GDP, IND, CPI, RER, DC, M2, and TA are significant at the 1% level. The results strongly reject the null hypothesis that there is no cross-sectional dependence between the variables considered in the top tourism destination countries. These results are in line with our previous expectations, a high level of CSD across the top 8 tourism destination countries, reflecting a number of commonalities within the regional BCs and FDs, including tourism growth and other controlling factors, such as (RER, CPI) and the exposure of the TSI to common shocks. Table 3.5 displays the results for the slope of homogeneity and the p-value for both tests ($\tilde{\Delta}$, $\tilde{\Delta}$_adj), which were significant at the 1% level. Thus, the rejection of the null hypothesis indicates that the estimated panel model has a slope of homogeneity problem. The evidence from Tables 3.4 and 3.5 suggests that panel slope heterogeneity and a CSD problem should be taken into account in the following steps.

Table 3.4: Cross-sectional Dependence Test Results

	LM	LM CD		Bias-adjusted LM test	
	Stat.	Stat.	p-value	Stat.	p-value
TSI	631.419***	21.893***	(0.000)	80.532***	(0.000)
GFC	154.381***	7.303***	(0.000)	15.810***	(0.000)
LABOR	134.709***	31.718***	(0.000)	105.448***	(0.000)
GDP	189.369***	34.122***	(0.000)	155.116***	(0.000)
IND	509.116***	6.136***	(0.000)	53.213***	(0.000)
CPI	807.621***	27.107***	(0.000)	139.247***	(0.000)
RER	534.636***	-0.612***	(0.000)	65.623***	(0.000)
DC	602.278***	1.162***	(0.000)	76.662***	(0.000)

M2	1312.29***	36.135***	36.135***	(0.000)	161.542***	(0.000)
TA	603.728***	21.736***	21.736***	(0.000)	76.896***	(0.000)

Note: *** indicates that 1% significant level. The cross-section dependency test follows the normal distribution standard. Thus, there is no cross-sectional dependence on a null hypothesis.

Table 3.5: Homogeneity of Slope Test Analysis

Tests	LM statistics	p-values
$\tilde{\Delta}$	19.568***	(0.000)
$\tilde{\Delta}$_adj	22.037***	(0.000)

Note. ***, display 1% significant level. Null hypothesis: the existence of slope homogeneity.

Table 3.5 presents the results of the panel unit root tests for both the. CIPS and CADF of the series are under consideration, suggesting that all series are nonstationary at levels but become stationary at first differences. This finding is because the null hypothesis of a unit root cannot be rejected throughout four model options of unit root tests; however, the null hypothesis of a unit root can be rejected when series are first differenced. Therefore, at this moment, this study concludes that the series under consideration is integrated of order one, I (1).

Table 3.6: Panel Unit Root Tests

Variables	CIPS		CADF	
	Level	First difference	Level	First difference
TSI	-2.086	-6.084***	-1.626	-5.206***
GFC	-2.455	-5.915***	-2.237	-5.384***
LABOR	-1.156	-5.267***	-1.134	-4.431***
GDP	-1.792	-4.703***	-2.190	-3.758***
IND	-1.641	-5.991***	-1.263	-4.926***
CPI	-2.176	-5.500***	-2.057	-4.771***
RER	-1.789	-4.479***	-1.295	-4.229***
DC	-1.269	-4.611***	-1.485	-3.159***

M2	-2.140	-5.043***	-1.921	-4.668***
TA	-2.384	-5.057***	-2.115	-4.845***

Note: ***, Indicates a statistical significance at 1 % level. Critical values are not stated for the sake of brevity but can be given upon request.

The general intent of this study is to examine the long-run cointegration between tourism firms' stock price and BCs and FDs in more detail. Due to the limitation of the number of variables that can be implemented in the Westerlund (2007) cointegration, we divided equation (3.3) into five models to verify the cointegration between the TSI and BCs by adding one of our control variables to each model, which is shown from one to four in Table 7: Model 1: F (TSI, GFC, LABOR, GDP, IND, CPI); Model 2: F (TSI, GFC, LABOR, GDP, IND, RER); Model 3: F (TSI, GFC, LABOR, GDP, IND, TA). Likewise, Model 5 shows the cointegration between FD and the TSI: Model 4: F (TSI, DC, M2, RER, CPI, TA). Overall, Table 3.7 highlights the Westerlund (2007) cointegration results, which confirm the presence of long-term cointegration in each model. Moreover, Table 3.8 displays the Kao cointegration test used as a robust check and the implementation of the whole model in equation (3). The results of the Kao cointegration test show that the null hypothesis of nonstationary residuals (denoting no cointegration) in equation (3) is rejected, and its alternative of stationary residuals (denoting a cointegrating relationship) is accepted. Thus, the Kao cointegration test suggests that equations (3.3) of this study are cointegration models.

Table 3.7: Westerlund (2007) Panel Cointegration Test

Statistic	Model 1: F(TSI,GFC, LABOR,GDP,IND,CPI)		Model 2: F(TSI,GFC, LABOR,GDP,IND,RER)		Model 3: F(TSI,GFC, LABOR,GDP,IND,TA)		Model 4: F(TSI,DC, M2,RER,CPI,TA)	
	Value	P-value	Value	P-value	Value	P-value	Value	P-value
G_t	-3.712**	(0.015)	-3.012***	(0.012)	-3.315*	(0.078)	-3.258**	(0.027)
G_α	-12.585	(0.980)	-9.039	(0.900)	-6.805	(0.980)	-7.978	(0.781)
P_t	-9.334***	(0.007)	-6.645**	(0.035)	-7.598*	(0.053)	-10.287***	(0.008)
P_α	-10.362	(0.950)	-6.703	(0.881)	-6.116***	(0.002)	-8.982***	(0.011)

Note: *** and ** show significance at the 1% and 5% levels, respectively.

Table 3.8: Kao Residual Cointegration Tests

Null hypothesis	Statistic	p-value
Modified Dickey-Fuller t	-3.348***	(0.000)
Dickey-Fuller t	-2.354***	(0.009)
Augmented Dickey-Fuller t	-2.949***	(0.001)
Unadjusted modified Dickey-Fuller t	-5.189***	(0.000)
Unadjusted Dickey-Fuller t	-2.961***	(0.001)

Notes: *** $p < 0.001$. Akaike Info Criterion was selected for lag length.

Confirming the cointegration relationship in equation (3.3) enables us to estimate the long-run coefficients of each independent variable concerning the dependent variable: TSI. Table 3.9 presents the DOLS results of estimating the long-run coefficients in equation (3.3). A total of eight different model options are preferred in this study, as per previous works (Imamoglu et al., 2018), which are ordered from the narrowest to the widest. This strategy checks the robustness and consistency of the results, as advised in the relevant literature (Imamoglu et al., 2018). To interpret the result, we consider that Model 8 in Table 3.9 shows that GCF and LABOR exert positively significant but inelastic effects on tourism stock performance in the selected countries. This is because GFC enables more capital structure research and development, leading to increased labour productivity effectiveness. As labour becomes more efficient, more goods will be produced, resulting in a rise in GDP and economic activity that will stimulate the tourism industry (Shahbaz et al., 2017). This finding reveals that investment climate and labour growth positively impact stock prices in the tourism, hospitality, and leisure industries.

On the other hand, BCs, as proxied by GDP and IND, exert positively significant 1.077% and 0.753% effects on TSIs, respectively. The impact of GDP is always elastic, while the coefficients of IND are generally inelastic but close to unit elasticity. This finding aligns with Chen (2007b), who asserts that IND measures BCs closely monitoring the manufacturing industry, while GDP includes both manufacturing and other service industries. Thus, this finding indicates that tourism firms' stock price is closely connected not only to the production sector but also to other service industries. In addition, Chen (2007a) noted that the increase in GDP and IND provided more opportunities for firms to raise their sales and revenues, resulting in a rise in the stock

prices of tourism firms. Similarly, Chen (2007a) found a causal link between hotel stock returns and IND for China and Taiwan. In addition, Chen and Kim (2010) found a causal association between IND and the stock returns of airlines, hotels, and entertainment firms.

Moreover, Table 3.9 also displays the effect of financial development (DC, M2) on TSI, with the increases in DC having a nearly one-to-one impact on TSI levels. More explicitly, a 1% increase in DC increases the TSI by 0.994% and is positively significant and inelastic. This finding is in line with Shahbaz et al. (2017). FD boosts economic activity due to increased credit growth, investment opportunity, and the overall stock market. This will lead to a healthy economic environment for investors and a better investment in the tourism sector. A well-functioning financial market and banks are responsible for financing and lending projects in the tourism sector (Katircioglu et al., 2017). Besides, the effect of M2 on the TSI is 1.124% and positively significant and elastic. Chen et al. (2012) stated that the expansionary monetary policy, which denotes a rise in money supply (M2), will influence stock price via various channels. For example, expansionary monetary policy will boost economic growth and the consumption of tourism goods and services, thus boosting tourism firms' revenue and stock prices (Barrows and Naka, 1994; Chen et al., 2005; Chen and Kim, 2006).

Additionally, Table 3.9 highlights that the most influential impact on the TSI is from TA: a 1% increase in TA increases the TSI by 2.33% and is positively significant. The impact of TA is direct and indirect on the TSI. If a country is experiencing tourism expansion, tourism firms are likely to see increased occupancy rates, customers, sales, and returns, which will be reflected in their stock prices (Chen, 2007c, 2011; Demir et al., 2017). Hence, TA is expected to have a positive and significant impact on TSI. On

the other side, tourism growth can considerably enhance the business environment, indirectly affecting TSI. Previous empirical studies have shown that tourism expansion can stimulate economic development (Balaguer and Cantavella-Jorda, 2002; Dritsakis, 2004).

Finally, the coefficients of the main control variables, CPI and RER, are generally negatively significant for the TSI, as expected. The results of empirical studies show that CPI could either positively or negatively impact a firm's stock price (Asprem, 1989). However, several previous studies indicate that CPI negatively affects stock returns (Fama, 1981; Chen et al., 1986; Barrows & Naka, 1994; Chen, 2007c). RER appreciation is expected to reduce a country's exports and boost imports. This, in turn, reduces income from national businesses, including tourism and hospitality firms, which leads to a reduction in the TSI (Chen et al., 2012). As a result, the performance of tourism and hospitality firms will also be adversely impacted by the valuation of the national currency, thus lowering people's confidence and income and changing their attitudes as they delay the luxury of tourism to manage their basic necessities (Demir et al., 2017). TSI is still strongly vulnerable to financial crises since, in line with Ersan et al. (2019), the financial crisis of 2008 triggered a significant downturn of 1.32%.

Table 3.9: Results from the Panel DOLS

Dependent Variable: TSI								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GFC	0.0103	0.142	0.196	0.212	0.235	0.339**	0.379**	0.223*
	(0.956)	(0.426)	(0.278)	(0.196)	(0.176)	(0.040)	(0.018)	(0.080)
LABOR	0.417***	0.431***	0.340***	0.345***	0.326***	0.339***	0.400***	0.357***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP	-	1.257***	1.618***	1.263***	1.271***	1.297***	1.581***	1.077***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.007)
IND	-	-	0.720	0.462	0.431	1.103**	0.812	0.753**
			(0.103)	(0.246)	(0.325)	(0.212)	(0.134)	(0.027)
CPI	-	-	-	-0.628	-1.400***	-1.659***	-1.809***	-2.609***
				(0.164)	(0.000)	(0.000)	(0.000)	(0.000)
RER	-	-	-	-	-0.593***	-0.610***	-0.753***	-0.906***
					(0.000)	(0.000)	(0.000)	(0.000)
DC	-	-	-	-	-	0.446	0.999**	0.994***
						(0.229)	(0.019)	(0.010)
M2	-	-	-	-	-	-	0.356***	1.124***
							(0.000)	(0.001)
TA	-	-	-	-	-	-	-	2.333***
								(0.000)
FC	-	-	-	-	-	-	-	-1.32***
								(0.002)
R2	0.973	0.977	0.981	0.984	0.985	0.988	0.973	0.832

Adj. R2	0.971	0.974	0.977	0.981	0.981	0.983	0.969	0.821
SE of Reg.	0.308	0.287	0.270	0.246	0.246	0.229	0.226	0.176
Long run var.	0.282	0.225	0.183	0.145	0.135	0.104	0.075	0.031

Notes: (I) *** and ** and * indicate rejection of null hypothesis at 1% and 5% and 10% significance level, (ii) In all six estimations, Schwarz Criteria Information is used.

The final step in this research study is to analyse the causality test results among the series under consideration. Table 3.10 presents the Dumitrescu–Hurlin panel causality test results in this respect. These results show that there are causalities among the BCs, FD, and TSI under consideration. First, Table 3.10 supports a bidirectional causality between stock price performance in the tourism, hospitality, and leisure industries and the business environment in selected countries, revealing a reinforcing feedback relationship between business conditions and stock performance. Growth in business and the macroeconomic environment would increase the stock prices of the tourism, hospitality, and leisure industries. Growth in these industries would also result in better business and macroeconomic activities.

Secondly, it can be seen that two different causalities are observed in the case of the FD series. That is, uni-directional causality that runs from DC to TSI is confirmed, while bidirectional causality between M2 and TSI is established in Table 3.10. This significant finding also reveals that changes in the volume of credit channels in the economy and financial markets would lead to changes in stock performances. On the other hand, money supply changes in circulation would imply changes in stock performance, while changes in stock performance in the tourism, hospitality, and leisure industries would contribute to money supply changes.

Finally, the results in Table 3.10 show that two more uni-directional causalities run from (1) consumer prices to stock prices and from (2) real exchange rates to quite reasonable stock prices. Moreover, it is observed that there is reinforcing causality between tourism growth and stock prices in the tourism, hospitality, and leisure industries.

Table 3.10: Results from Dumitrescu–Hurlin Panel Causality Tests

Hypothesis	w-statistic	p-value	Result	Conclusion
GFC→TSI	3.93***	(0.017)	Yes	Bidirectional causality between GFC and TSI
TSI→GFC	4.68***	(0.000)	Yes	
LABOR→ TSI	3.14***	(0.176)	NO	Uni-directional causality between LABOR and TSI
TSI→LABOR	3.74***	(0.033)	Yes	
GDP→TSI	4.19***	(0.013)	Yes	Bidirectional causality from GDP to TSI
TSI→GDP	5.37***	(0.002)	Yes	
IP→ TSI	5.03***	(0.000)	Yes	Bidirectional causality from IP to TSI
TSI→IP	3.66***	(0.042)	Yes	
CPI→ TSI	4.76***	(0.000)	Yes	Uni-directional causality between CPI and TSI
TSI→CPI	2.25	(0.839)	No	
RER→TSI	4.99***	(0.000)	Yes	Uni-directional causality between RER and TSI
TSI→RER	3.17	(0.161)	No	
DC→TSI	4.99***	(0.000)	Yes	Uni-directional causality between RER and TSI
TSI→DC	8.32	(9.E-1)	No	
M2→TSI	4.93***	(0.000)	Yes	Bidirectional causality between M2 and TSI
TSI→M2	4.05***	(0.011)	Yes	
TA→TSI	3.38*	(0.093)	Yes	Bidirectional causality between TA and TSI
TSI→TA	22.1***	(0.000)	Yes	

Note: W-stat denotes Wald statistics, Zbar statistics, and probability. *, **, *** indicates that statistics are significant at.the 10%, 5% and 1% level of significance, respectively.

3.6 Conclusion

This study examined the effects of business and finance conditions on the stock performance of tourism, hospitality, and leisure firms operating in significant tourist destination countries between 2004 Q1 and 2018 Q4. To the best of our knowledge, this is the first study attempting to extensively identify the impact of BCs and FD association with tourism growth (international tourist arrivals) on tourism firm stock prices in major tourist countries. Besides, we used the first and second-generation panel data method to provide a comprehensive picture of this nexus. Thus, this research empirically documents the major contribution of BCs and FD to tourism

firms' financial performance. Furthermore, we carried out the Westerlund (2007) and Kao (1999) experiments to detect the cointegration relationship between the interested variables', and the findings suggest that a long-term relationship can be observed in model equation (3). Besides, the long-run estimation (DOLS) results underscore that tourism firm stock prices are in a long-term economic relationship with the business and financial environment. Therefore, we also conclude that business and finance environments positively and significantly affect stock prices in the tourism, hospitality, and leisure industries.

Moreover, the findings have shown that the coefficient of international tourist arrivals (TA) is a greater impact than the other factors considered in this study. Thus, these findings suggest that the most influential factor driving the TSI is the arrival of foreign visitors. Additionally, the results of the DOLS indicate that CPI and RER had a negative effect on TSI, as per our expectation. Therefore, as seen in this study, a comprehensive empirical analysis is suitable for any country that may want to focus on its tourism sector as part of strategic action for global growth.

This study finds that the macroeconomic prospects of countries are long-term determinants of stock performances in the tourism, hospitality, and leisure industries. Therefore, not only policymakers but also investors in such industries need to pay attention to macroeconomic activities and prospects not only in tourist-receiving countries but also in tourist-sending countries; this is because this study finds that tourist arrivals have a major influential impact on stock performance in the tourism, hospitality, and leisure industries. Based on the results of this study, governments and policymakers should enhance and facilitate the arrival of foreign tourists. For example, the scope of international marketing as a tourist destination has been updated or

changed, such as the total tourism budget, authorisation of state, or private tourism developmental activities. Besides, tourism investors can use hedging strategies for stocks that might be good options to minimise risk due to economic and financial shocks in tourist-receiving and tourist-sending countries. This study has focused on the significant tourist-receiving countries around the world.

Although the present study provides credible analytical results for modeling the long-term effects of BCs and FD on tourism firms' stock prices, the limitations of this study include its lack of data regarding the tourism stock index, which led the authors to rule out other major European tourist destinations, such as Italy and Turkey. In addition, the BCs and FD data are limited to some countries and are not available to a vast number of countries, which resulted in this paper exploring a smaller range of countries using a panel data method. Future studies can examine the firm-level characteristics of tourism firms and offer a detailed analysis of the effects of monetary policy as an additional factor explaining the financial performance of tourism firms. Future research may also study this relationship nationally or internationally using other countries.

Chapter 4

IMPACT OF ECONOMIC SENTIMENT AND ECONOMIC POLICY UNCERTAINTY ON TRAVEL AND LEISURE STOCK RETURN

4.1 Introduction

Keynes connected sentiment to a state of long-term expectation and confidence about economic conditions and emphasized the critical role of changes in these expectations in explaining economic fluctuations (Keynes, 1936). In particular, economic sentiment is formed by the perceptions of consumers and producers about the economy's long-term development (Van Aarle and Moons, 2017). Economic policy uncertainty can also be used as another measure of sentiment (Dragouni et al., 2016). Economic policy uncertainty captures the concerns of businesses and households about future taxes, spending, and monetary policies, which influence their behaviours and change their confidence about a country's economic conditions (Baker et al., 2016). Based on this concept, the demand for goods and services, particularly for tourism, is affected by economic sentiment and economic policy uncertainty, as they are considered a signal of future economic conditions (Kim et al., 2012; Dragouni et al., 2016; Yap and Allen, 2011).

Consequently, contemporaneous travel and leisure are more likely to be affected by economic sentiment and economic policy uncertainty. In addition, future travel and

leisure stock returns tend to be influenced by economic condition signals. To be more specific, the behavioural approach indicates that times of irrational sentiment (overly high or low economic sentiment and economic policy uncertainty) characterize (overly optimistic or pessimistic expectations) economic conditions, though they only persist and influence future travel and leisure stock prices for a specific period, after which travel and leisure stock prices return to equilibrium (Schmeling, 2009). In other words, irrational traders who overreact to good news (e.g., increasing economic sentiment or decreasing economic policy uncertainty) only affect travel and leisure stock prices in the short run. Therefore, noise traders demand the shocks generated by irrational trades temporarily move stock prices away from a state of equilibrium. In such cases, rational arbitrageurs can take positions and exploit noise traders' misperceptions and profit from trading travel and leisure stocks (De Long et al., 1990).

With these ideas in mind, this study examines the answer to the following research question: Do economic sentiment, and economic policy uncertainty changes significantly influence contemporaneous and future travel and leisure stock returns in top European Union (EU) tourism destinations?

The concept of economic sentiment is related to consumer and producer optimism or pessimism about current and future economic conditions (De Grauwe, 2011). Economic sentiment shows to which extent consumers and producers are confident about the state of the economy. Hence, sentiment affects consumers' and producers' decisions regarding spending, saving, and investing (Van Aarle and Moons, 2017), meaning economic sentiment is a crucial indicator of an economic activity's performance. A decline in economic sentiment implies a deterioration in consumer and producer optimism towards current and future economic conditions. As a result,

consumers are less likely to spend, while producers tend to produce less and postpone capital investments (Van Aarle and Kappler, 2012).

Economic policy uncertainty refers to a situation in which businesses and households lack quantified information and are unaware of present and future economic conditions (Van Aarle and Moons, 2017). Economic policy uncertainty influences economic agents' confidence regarding future economic conditions. Therefore, a high degree of economic policy uncertainty can influence household and business decisions regarding consumption and investment, respectively. As a result, households tend to reduce or postpone their consumption, while businesses prioritize liquidity rather than capital investment (Ersan et al., 2019; Giavazzi and McMahon, 2012). More specifically, a rise in economic policy uncertainty is accompanied by declining demand for non-essential goods and services, such as tourism (Bloom, 2009; Dragouni et al., 2016).

The present value model postulates that stock price is a function of a company's future cash flow, where higher future cash flow leads to higher stock prices and stock returns. Accordingly, due to being a significant indicator that reflects economic agents' optimism and pessimism about economic activity prospects, economic sentiment is expected to influence travel and leisure stock prices and stock returns. If economic sentiment improves due to economic agents' increased optimism about the present and future economic conditions, the agents typically adjust their behaviours. Under these circumstances, consumers are likely to increase their consumption of luxury goods, such as tourism products and services, since such goods are highly sensitive to changes in consumers' disposable income and their willingness to purchase and consume (Singal, 2012; Dragouni et al., 2016). This situation leads to an increase in hospitality

firms' future cash flow and, hence, higher stock returns. Therefore, this study's first and second hypotheses are constructed as follows:

- H1: A rise in domestic economic sentiment will lead to an increase in travel and leisure stock returns.
- H2: A rise in regional economic sentiment will lead to an increase in travel and leisure stock returns.

In the same way, the anticipation of higher demand for their products, higher cash flows, and stock returns leads other hospitality industry suppliers, such as hotels, restaurants, casinos, and travel and tourism firms, to employ more workers and increase their capital investment. Therefore, higher (lower) economic policy uncertainty has a positive (negative) effect on hospitality stock returns. Higher economic policy uncertainty implies unpromising economic conditions, inducing households to save more and consume less (Giavazzi and McMahon, 2012). This situation results in decreased or delayed tourism consumption which, in turn, leads to a decrease in hospitality firms' future cash flow, thereby triggering a decline in their stock returns (Demir and Ersan, 2018). In contrast, lower economic policy uncertainty encourages hospitality firms to make new investments rather than hold cash as a hedging tool against potential uncertainty (Ersan et al., 2019). This development leads to a rise in hospitality firms' future cash flow and, thus, their stock prices and returns increase. Based on this information, this study's third and fourth hypotheses are structured as follows:

- H3: A rise in domestic economic policy uncertainty will lead to a decline in travel and leisure stock returns.

- H4: A rise in regional economic policy uncertainty will lead to a decline in travel and leisure stock returns.

This study investigates the impact of changes in economic sentiment and economic policy uncertainty (both domestic and European) on the travel and leisure stock index returns of the top European tourism countries, namely France, Germany, Spain, and the UK. These countries' stock markets are among the top six stock markets in Europe. Moreover, they were among the top five European tourist destinations in 2017 in terms of international tourist arrivals, tourism revenue, and tourism expenditure (World Travel and Tourism Council, 2018). Furthermore, about 83% of the total international tourists in Europe originate from the European market, and 72% of the European market is within the EU market (World Tourism Organization, 2018). This indicates that European tourism sectors are more likely to be affected by changes in European economic conditions.

The contribution of this study to the existing literature is threefold. To start, this is the first study that uses and outlines the relative importance of changes in domestic and regional economic sentiment to explain contemporary and future travel and leisure stock returns in top European tourism destinations. Therefore, this study extends Singal's (2012) and Chen (2015) work by considering the effect of domestic and regional economic sentiment, which provides a comprehensive picture comparative to domestic consumer sentiment. Second, we extend the literature on economic policy uncertainty (e.g., Demir and Ersan, 2018; Ersan et al., 2019) by identifying the forecasting power of domestic and European economic policy uncertainty in explaining future travel and leisure stock returns. Third, using predictive regression models allows us to show the predictive power and role of domestic and European

economic sentiment and economic policy uncertainty changes in explaining future travel and leisure stock index returns over different forecasting horizons.

The rest of the paper is organized as follows: Section 2 presents a literature review. Section 3 offers the study's data and methodology. Section 4 explains the empirical results, and Section 5 concludes the paper.

4.2 Literature Review

4.2.1 The Impact of Macroeconomic Factors

A vast body of literature addresses the link between various macroeconomic factors and hospitality stock returns. For example, the early work Barrows and Naka (1994) investigated the effects of industrial production, money supply, domestic consumption, inflation rates, and interest rates on restaurant and lodging sector stock returns in the US. Additionally, they showed that these sectors only significantly responded to the money supply growth rates, domestic consumption, and inflation rates. Later, Chen et al. (2005) investigated whether there is a significant relationship between a broad range of macroeconomic variables (the growth rates of industrial production, money supply, expected inflation, changes in unemployment, and yield spread) and hotel stock returns in Taiwan. They also reported that only money supply and unemployment rate significantly influence Taiwanese hotel stock returns among these variables.

Meanwhile, Chen (2007) examined the existence of the long-term and bidirectional causal relationships between business conditions (gross domestic product and industrial production) and hotel stock returns in both China and Taiwan. Similarly, Chen and Kim (2010) found a causal relationship between industrial production and

the stock returns of airlines, hotels and entertainment companies. In addition, Asprem (1989) examined the consumer price index (CPI) effect on the stock returns of ten European countries, with the results showing a positive relationship between stock returns and the CPI in five out of ten European countries, but a negative relationship in the five other countries. Still, the findings of several other studies indicate that the CPI adversely affects stock returns (e.g., Barrows and Naka, 1994).

The exchange rate is also one of the essential factors in the tourism industry, as it directly affects tourism companies' costs and revenues. Demir et al. (2017) found a negative relationship between the stock prices of Turkish tourism firms and foreign exchange rates. More recently, Gokmenoglu and Hadood (2019) studied the effect of volatility spillover between foreign exchange rates and the stock prices of Chinese tourism firms. Their findings revealed a bi-directional volatility spillover effect between foreign exchange rates and Chinese tourism firms' returns. Moreover, Ersan et al. (2019) investigated the impact of economic policy uncertainty on the STOXX Europe 600 Travel & Leisure Price Index by including macroeconomic variables. In terms of these variables, they found that only an increase in oil prices has a negative effect on tourism companies' stock prices as listed in Europe. In contrast, Demir and Ersan (2018) studied the effect of economic policy uncertainty (domestic and European) and macroeconomic variables on Turkish tourism firms' stock returns but found no significant effect of oil prices on tourism firms' stock returns.

4.2.2 The Impact of Consumer Sentiment and Economic Policy Uncertainty in the Tourism Sector

A limited amount of literature has investigated the effect of consumer sentiment (e.g., Singal, 2012; Chen, 2015) and economic policy uncertainty (e.g., Demir and Ersan,

2018; Demir et al., 2017; Ersan et al., 2019) on hospitality firms' stock returns. Singal (2012) pointed out that changes in the US consumer sentiment index had a positive effect on a hospitality firm's stock index returns. Consumer sentiment also had lower predictive power overstock returns. That forecasting power could only be used for firms following a profit maximization strategy, however. Chen (2015), meanwhile, provided a comprehensive picture of the impact of consumer sentiment on Taiwanese hotels' stock performance. He showed that consumer sentiment changes could enhance stock returns and total sales, reducing stock cash flow risks. Demir and Ersan (2018) also argued that Turkish tourism firm stock returns respond positively and weakly to consumer confidence changes. However, they react negatively and asymmetrically to economic policy uncertainty, with strong and weak effects resulting from European and Turkish economic policy uncertainty changes, respectively. Further, Demir et al. (2017) found that the growth rates of the consumer confidence index, international tourist arrivals and exchange rates had a significant causal link with Turkish tourism stock returns during the pre-2008 financial crisis, while post-financial crisis, only the growth rate of imports and oil prices significantly influenced Turkish firm stock returns. Regarding economic policy uncertainty's effect on tourism firms' stock returns, more recently, Ersan et al. (2019) found that European and global economic policy uncertainty negatively impacts European travel and leisure stock index returns. Moreover, they demonstrated that European and global economic policy uncertainty has more power than macroeconomic variables in explaining European travel and leisure stock index returns.

As argued, the above-mentioned literature highlighted that macroeconomic factors and consumer sentiment, and economic policy uncertainty impact travel and leisure stock

returns. Despite extensive research into hospitality stock returns, no empirical studies have explicitly examined the effect of economic sentiment and economic policy uncertainty (domestic and European) on top European travel and leisure stock returns (i.e. France, Germany, Spain, and the UK). Therefore, this study sheds new light on tourism literature, taking into account this knowledge gap.

4.3 Data and Methodology

4.3.1 Data and Variable Descriptions

4.3.1.1 Dependent Variables

This paper examines the role of economic sentiment and economic policy uncertainty (both domestic and European) in explaining changes in travel and leisure stock index returns in top European Union tourism destinations, namely in France (CAC Travel & Leisure), Germany (FTSE Germany Travel & Leisure), Spain (BCN 5 Commerce Leisure and Tourism), and the UK (FTSE 350 Travel & Leisure), utilizing monthly data for the period 2001M02 to 2018M09. The exclusion of Italy as one of the top five European destinations was due to data available on the monthly travel and leisure stock index. The starting point for the sample period was chosen due to data availability, in that the economic policy uncertainty index for Spain has only been available since 2001M01. We employed monthly travel and leisure stock indexes for each country since they reflect the stock performance of listed travel and leisure companies, such as airlines, travel and tourism companies, gambling enterprises, restaurants and bars, recreational services, and hotels, following Demir and Ersan (2018). Monthly travel and leisure stock returns ($T\&lSR$) are calculated as $Ln\ (P_t/\ P_{t-1})\ \times 100$, where P_t Is the travel and leisure stock price index.

4.3.1.2 Independent Variables

The leading independent variables in this paper are the monthly economic sentiment and policy uncertainty (both domestic and European) index changes. First, we used the

monthly growth rate of the domestic economic sentiment index ($DESI$) for each country and the European Union economic sentiment index ($UESI$) for the European economic sentiment index, following (Van Aarle and Moons, (2017). The economic sentiment index (ESI) is a survey based index that aims to provide information on perceptions and expectations of economic agents, both from the demand (consumers) and the supply (producers) sides of the economy. The ESI is a composite index based on survey results from five distinct confidence sector indices with different weights as follows: the industrial sector 40%, retail trade 5%, services 30%, consumer sector 20%, and the construction sector 5%.

Figure 4.1 illustrates the time trend of $UESI$ and $DESI$ in France ($FRESI$), Germany ($GEESI$), Spain ($SPESI$), and the UK ($UKESI$) during the period 2001M02 - 2018M09. The $DESI$ indices in all countries are generally in line with economic conditions. It increases over expansion times that is, after the 2008 financial crisis, and after the European sovereign debt crisis in May 2013 except for France, where $FRESI$ started to improve in 2015. However, all $DESI$ indices decline during the contraction periods except Spain. The remarkable decline was over the terrorist attack on September 2011, 2008 2009 global recession periods, and the 2011 2012 European sovereign debt crisis. Accordingly, the link between ESI and economic conditions may not be an exact one since economic sentiment may not have complete information on the economic perspective. Therefore, we used the monthly growth rate of domestic economic sentiment indices ($\Delta DESI$) and the European economic sentiment index ($\Delta UESI$) following Singal (2012) who used the monthly growth rate of consumer sentiment index to study its effect on tourism travel and leisure stock index return.

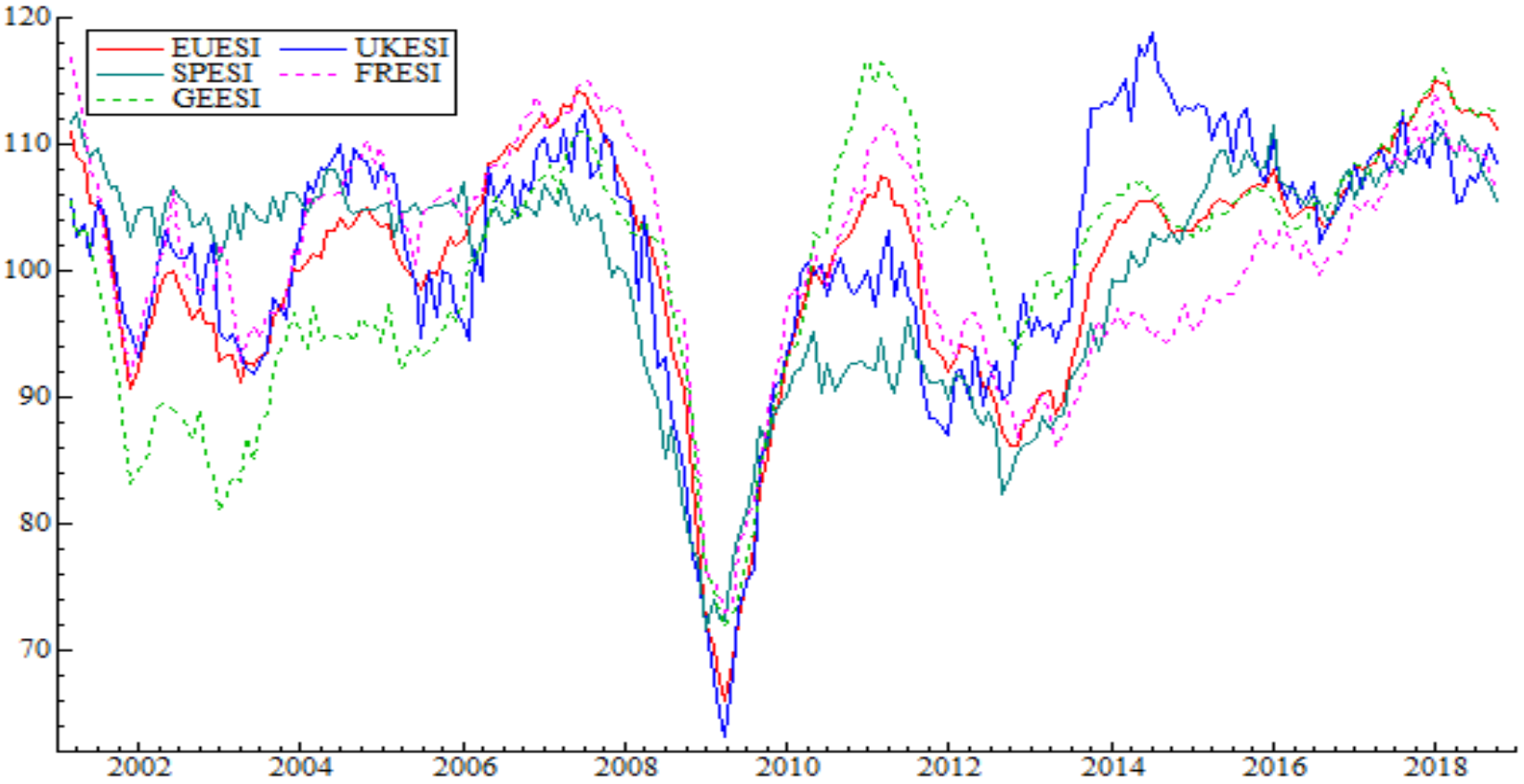

Figure 4.1: Domestic and European Economic Sentiment Indices

Second, we used the monthly growth rates of domestic economic policy uncertainty indices (EPU) provided by Baker, Bloom, and Davis (2016), based on three factors: (1) reporting of the newspaper on EPU; (2) anticipated future tax code through the evaluation of provisions for the tax code which will expire in the upcoming years; and (3) dispersion among forecasters' predictions on economic variables. In France ($FREPU$), Germany ($GREPU$), Spain ($SPEPU$), and the UK. ($UKEPU$)And the European economic policy uncertainty ($UEPU$) for regional economic policy uncertainty following Ersan et al. (2019). Figure 4.2 shows that economic policy uncertainty increased during the European sovereign debt crisis 2011-20012. However, the increase was dramatic and remarkable during the UK Brexit process in the UK and France, respectively.

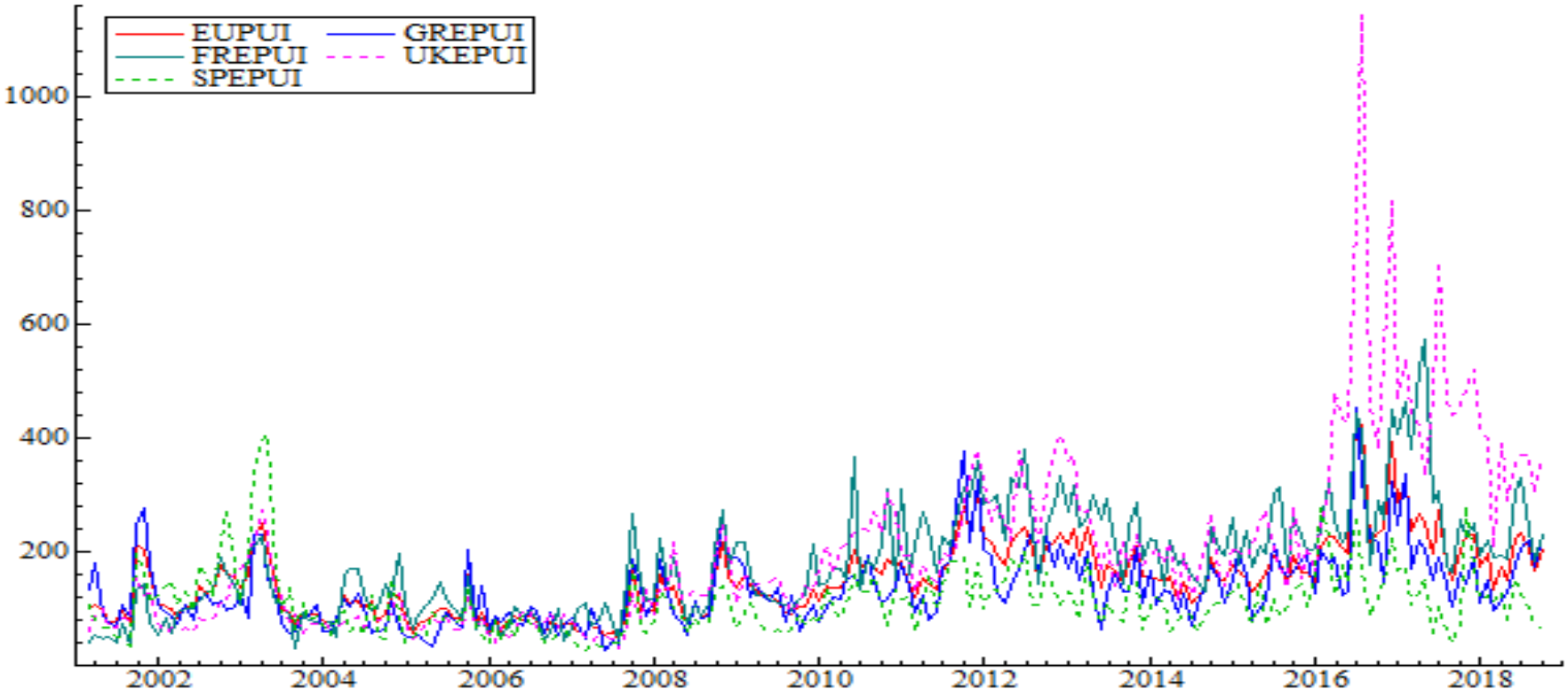

Figure 4.2: Domestic and European Economic Policy Uncertainty Indices

In addition to our two main independent variables, we also take into account the potential effects of macroeconomic variables in line with the literature. Specifically, we control for the monthly growth rate of the money supply ($\Delta M2$; Demir et al., 2017) and the monthly growth rate of the consumer price index(ΔCPI_t; Singal, 2012), and since GDP is commonly available on a quarterly basis, we use the growth rate of industrial production(ΔIP_t; Chen, 2015) and the monthly growth rate of the exchange rate in each country against the US dollar(ΔEXR_t; Demir et al., 2017). Moreover, we added into our model the monthly growth rate of oil prices ($\Delta OILP_t$; Demir and Ersan, 2018), a dummy variable to capture the effect of the financial crisis by taking the value of one during the period 2007M02 to 2009M12 and zero otherwise (Ersan et al., 2019), and, finally, following Chen (2015), we included the monthly overall stock market index returns (MR_t). The growth rates of all independent variables are calculated as follows: $Ln\ (P_t/\ P_{t-1})\ \times 100$, where P_t is the variable value at time$t$, and P_{t-1} is the variable value at time $t-1$. Table 4.1 shows the Variables' names, notations, computation, and sources.

Table 4.1: Details of Variables

Variables'	Notation	Computation	source
Dependent variables':			
Travel and leisure stock index returns	$T\&lSR$	$Ln\ (P_t/\ P_{t-1})\ \times 100$	Thomson Reuters' Data Stream and EIKON
Independent variables':			
Domestic economic sentiment index, European economic sentiments index	$DESI, UESI$	$Ln\ (ESI_t/\ ESI_{t-1})\ \times 100$	www.European commission.com
Domestic economic policy uncertainty indices, European economic policy uncertainty indices	$DEPU, UEPU$	$Ln\ (EPU_t/\ EPU_{t-1})\ \times 100$	www.policyuncertainty.com
Controls variables':			
Money supply	$\Delta M2$	$Ln\ (M2_t/\ M2_{t-1})\ \times 100$	Thomson Reuters' Data Stream and EIKON
Consumer price index	ΔCPI_t	$Ln\ (CPI_t/\ CPI_{t-1})\ \times 100$	Thomson Reuters' Data Stream and EIKON
Industrial production	ΔIP_t	$Ln\ (IP_t/\ IP_{t-1})\ \times 100$	Thomson Reuters' Data Stream and EIKON
Exchange rate	ΔEXR_t	$Ln\ (EXR_t/\ EXR_{t-1})\ \times 100$	Thomson Reuters' Data Stream and EIKON
Oil price	$\Delta OILP_t$	$Ln\ (OIL_t/\ OIL_{t-1})\ \times 100$	Thomson Reuters' Data Stream and EIKON
Stock market return index	MR_t	$Ln\ (MR_t/\ MR_{t-1})\ \times 100$	Thomson Reuters' Data Stream and EIKON
Dummy variables' (financial crises structural break)	GFC		

Descriptive statistics and correlation matrix are shown in appendix 1, table 4.4, 4.5, 4.6, and 4.7 for all countries over the period 2001M02 to 2018M09. Correlation matrix between all variables in each county where all correlation coefficients are less than 50% which indicates that all variables are not highly correlated with each other. Therefore, the multicollinearity problem does not exist.

4.4 Methodology

Before we ran a regression model, we tested whether our variables were stationary or not. We used the augmented Dickey-Fuller (ADF) test the Phillips-Perron (PP) test[2]. The results indicated that all independent and dependent variables had no unit roots; thus, all variables were integrated of order zero. Next, we conducted the ordinary least square (OLS) regression estimations using various models to investigate the impact of changes in economic sentiment and economic policy uncertainty on travel and leisure index returns.

As the basic model, we regressed $\Delta M2, \Delta CPI, \Delta IP, \Delta EXR, \Delta OIL,$ and GFC on $T\&lSR$. In the second model, we incorporated the variables above withMR, since MR is profoundly and positively correlated to any sectorial or firm stock return index. In the third model, we added $\Delta DESI$ and $\Delta DEPU$ to model (2). In the last model, we included $\Delta UESI$ and $\Delta UEPU$ in a model (3). The estimator used to estimate all the regression models was the Newey and West (1987) method to overcome autocorrelation and heteroscedasticity problems related to the error terms in all regression models, following Singal (2012) and Smales (2017). We estimated the following regression models:

[2] We do not report unit root results but they are available upon request.

$$T\&lSR_{i,t} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta CPI_{i,t} + B_3\Delta IP_{i,t} + B_4\Delta EXR_{i,t} + B_{45}\Delta OIL_t + B_6 GFC_t + \varepsilon_{i,t} \quad (4.1)$$

$$T\&lSR_{i,t} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta CPI_{i,t} + B_3\Delta IP_{i,t} + B_4\Delta EXR_{i,t} + B_5\Delta OIL_t + B_6 GFC_t + B_7 MR_{i,t} + \varepsilon_{i,t} \quad (4.2)$$

$$T\&lSR_{i,t} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta CPI_{i,t} + B_3\Delta IP_{i,t} + B_4\Delta EXR_{i,t} + B_5\Delta OIL_t + B_6 GFC_t + B_7 MR_{i,t} + B_8\Delta DESI_{i,t} + B_9\Delta UESI_{i,t} + \varepsilon_{i,t} \quad (4.3)$$

$$T\&lSR_{i,t} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta CPI_{i,t} + B_3\Delta IP_{i,t} + B_4\Delta EXR_{i,t} + B_5\Delta OIL_t + B_6 GFC_t + B_7 MR_{i,t} + B_8\Delta DESI_{i,t} + B_9\Delta DEPU_{i,t} + B_{10}\Delta UESI_{i,t} + B_{11}\Delta UEPU_{i,t} + \varepsilon_{i,t} \quad (4.4)$$

4.5 Results and Discussion

We estimated the four regression models represented by equations 4.1, 4.2, 4.3, and 4.4 using OLS methods. The results are presented in Table 4.2. Model (1) reflects the impact of $\Delta M2$, ΔCPI, ΔIP, ΔEXR, ΔOIL, and GFC on $T\&lSR$. Results indicate that the adjusted R^2 explained only 0.0009%, 1.6%, 4.8%, and 6.1% of the variance in $T\&lSR$ in France, Germany, Spain, and the UK, respectively. This implies that model (1) explains a small part of the changes in $T\&lSR$ in all the countries. This result is in line with Singal (2012), who indicated that macroeconomic variables have little explanatory power in explaining hospitality stock index returns in the US. The inclusion of MR into the model (2) considerably enhances the explanatory power of the independent variables, when compared with the model (1), in all countries, which is consistent with Singal (2012) and Chen (2015). The adjusted R^2 , Rises to 10.2%, 47.3%, 31.3%, and 56.3% in France, Germany, Spain, and the UK, respectively.

After controlling for $\Delta M2$, ΔCPI, ΔIP, ΔEXR, ΔOIL, GFC, and MR, we included $\Delta DESI$ and $\Delta DEPU$ into the model (3). The inclusion of $\Delta DESI$ and $\Delta DEPU$ improves

the explanatory power of the independent variables compared to in model (2), in the case of France. The adjusted R^2 notably rises from 10.2% to 16.4%, implying that $\Delta DESI$ and $\Delta DEPU$ play essential roles in explaining changes in $T\&lSR$. Interestingly, the addition of $\Delta UESI$ and $\Delta UEPU$ into the model (3) made MR marginally significant and $\Delta DESI$ and $\Delta DEPU$ statistically insignificant. Also, they remarkably enhance the adjusted R^2 from 16.4% to 24.3% indicating that model (4) added more to the explanatory power of the independent variables. $\Delta UESI$ has a predominantly positive effect, where a 1% increase in $\Delta UESI$ leads to an approximately 1.3% increase in $T\&lSR$, this suggests that $T\&lSR$ are highly sensitive to changes in regional economic sentiment, in the sense that, as European Union consumers and producers become more optimistic about the economic conditions in Europe, the higher $T\&lSR$ are. However, $\Delta UEPU$ weakly and negatively influences $T\&lSR$, in line with Demir and Ersan (2018), who indicated that European economic uncertainty negatively and profoundly influences the Turkish tourism stock index returns when compared to domestic economic policy uncertainty.

In the case of the UK, the addition of $\Delta DESI$ and $\Delta DEPU$ improves the R^2 in model (3) to 58.4%. Also, model (4) suggests that the inclusion of $\Delta UESI$ and $\Delta UEPU$ improves the R^2 to 60.2%. Moreover, model (4) indicates that $\Delta DEPU$ and $\Delta UEPU$ have marginally weak and negative impacts on $T\&lSR$, while $\Delta DESI$ positively affects $T\&lSR$, but it does not have a dominant effect, similarly to in the French case. However, $\Delta M2$ and ΔGFC are the most critical factors in explaining the variance in $T\&lSR$. A 1% increase in $\Delta M2$ is linked to a 1.3% increase in $T\&lSR$. This indicates that the domestic liquidity conditions considerably participate in explaining changes in $T\&lSR$, and, as the growth rate of the liquidity level in the economy increases,

consumers tend to spend more on goods and serveries. Therefore, tourism firms' cash flow is likely to increase, and, thus, their stock returns increase, in line with Chen (2015), who found that $\Delta M2$ predominantly and positively affects hotel stock returns in Taiwan. Also, $T\&lSR$ are highly exposed to financial crises, since the 2008 financial crisis caused $T\&lSR$ to massively decline by 1.8%, in line with Ersan et al. (2019). The addition of $\Delta DESI$ and $\Delta DEPU$ did not enhance the adjusted R^2 of the model (3), yet it slightly dropped from 31.3% to 30.9% in the Spanish case. However, the explanatory power of the model (4) reached 33.4% as a result of the inclusion of $\Delta UESI$ and $\Delta UEPU$ into the model (4). Similar to in the French case, $\Delta UESI$ has a dominant effect on $T\&lSR$, where a 1% increase in $\Delta UESI$ makes $T\&lSR$ increase by roughly 1.1%. This suggests that the European Union economic sentiment is a vital determinant for Spanish $T\&lSR$ changes.

Finally, the exception is Germany, where neither the addition of $\Delta DESI$ and $\Delta DEPU$ nor the addition of $\Delta UESI$ and $\Delta UEPU$ significantly added to the explanatory power of models (2) and (3), respectively. This finding is in line with Jansen and Nahuis (2003), who indicated that among 18 European stock markets, only the German stock market is not positively affected by the consumer confidence index. Model (4) indicates that MR is the sole variable that significantly and positively influences $T\&lSR$. This suggests that Germany $T\&lSR$ are profoundly affected by individual moods. MR reflects the fundamental social mood (Nofsinger, 2005), which, in turn, affects consumer and producer decisions. As MR (social mood) increases, wealth rises and, thus, boosts consumer confidence (Otoo, 1999). Accordingly, tourism demand increases (Dragouni et al., 2016), leading tourism firms' cash flow to increase and, thus, their stock returns increase. We used the multi-capital asset pricing model

(CAPM) to confirm that our models' results are robust by adding CAPM factors into the model (2), namely the three-month Treasury bill (FR), as a risk-free factor, and the excess stock market index returns factor ($MR - FR$), where the latter factor captures the stock market risk premium and is used instead of the MR Then, we added $\Delta DESI$ and $\Delta DEPU$ to model (3), and, in the model (4), we included $\Delta UESI$ and $\Delta UEPU$. The results indicated that our models are robust[3].

[3] Results are available upon request.

Table 4.2: OLS Regression Results Models

Country	UK				France			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
α_0	-0.590	-0.071	0.253	0.254	0.501	0.516	0.792*	0.760**
$\Delta M2$	2.439**	1.524***	1.268**	1.307**	0.311	0.279	0.183	0.091
ΔCPI	1.979**	0.543	0.348	0.291	-1.750	-2.019	-1.385	-1.396
ΔIP	-0.1208	0.186	0.157	0.098	0.395	0.157	0.174	0.007
ΔEXR	0.000	-0.05	-0.073	-0.102	0.065	0.020	-0.040	-0.054
ΔOIL	-0.036	-0.015	-0.010	-0.016	-0.036	-0.072	-0.086	-0.097*
GFC	-2.471**	-1.837***	-1.753***	-1.679***	-1.486	-1.109	-0.946	-0.606
MR		0.867***	0.798***	0.734***		0.407***	0.283**	0.194*
$\Delta DESI$			0.051	0.034			0.517**	-0.201
$\Delta DEPU$			-0.032***	-0.017*			-0.035**	-0.006
$\Delta UESI$				0.299**				1.264***
$\Delta UEPU$				-0.026*				-0.067**
Adjusted R^2	6.1%	54.8%	58.4%	60.7%	-0.009%	10.2%	16.4%	24.3%
F- statistic	3.318***	37.598***	33.976***	30.633***	0.976	4.456***	5.621***	7.159***
Obs	212	212	212	212	212	212	212	212
Country	Germany				Spain			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
α_0	1.151	0.334	0.330	0.247	-0.115	0.014	0.030	-0.038
$\Delta M2$	-2.946***	-1.545	-1.099	-0.932	0.357	0.345	0.320	0.351
ΔCPI	0.351	-0.653	-0.732	-0.475	1.270	0.575	0.581	0.593
ΔIP	0.088	0.068	-0.138	-0.181	0.355	0.369	0.454	-0.024
ΔEXR	0.217	-0.073	0.042	0.044	0.244	0.069	0.072	0.072
ΔOIL	-0.066	-0.021	-0.041	-0.048	0.132**	0.056	0.057	0.037
GFC	-1.698	-1.207	-1.036	-0.950	-2.562	-2.150	-2.198	-2.255
MR		1.146***	1.080***	1.068***		0.724***	0.743***	0.662***
$\Delta DESI$			0.475	0.121			-0.250	-0.663

$\Delta DEPU$			-0.018	-0.030			0.001	0.000
$\Delta UESI$				0.532				1.066***
$\Delta UEPU$				0.026				0.002
Adjusted R^2	1.6%	47.3%	47.4%	47.5%	4.8%	31.3%	30.9%	33.4%
F- statistic	0.152**	28.105***	22.156***	18.311***	2.786***	14.779***	11.529***	10.635***
Obs	212	212	212	212	212	212	212	212

Note: ***,**,* donates that coefficient is significant at 1%,5%,10% respectively. Results are reported based on Newey–West (1987) estimator heteroskedasticity and autocorrelation consistent covariance matrix.

4.5.1 Predictive Regressions of Economic Sentiment and Economic Policy Uncertainty on Travel and Leisure Stock Index Returns

This section aims to determine whether economic sentiment and economic policy uncertainty are useful predictors over the short or medium-term following Brown and Cliff (2005), Schmeling (2009), and Smales (2017). Therefore, we estimated equation (4) for forecasting $T\&lSR$ in the following time horizons: one, three, six, and twelve months. We regress $T\&lSR_{i,t}$ in equation (4) for the times t + 1, t + 3, t + 6, and t +12 on the independent variables as follows:

$$\Delta T\&lSR_{i,t+f} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta CPI_{i,t} + B_3\Delta IP_{i,t} + B_4\Delta EXR_{i,t} + B_5\Delta OIL_t + B_6GFC_t + B_7MR_{i,t} + \varepsilon_{i,t+f} \quad (4.5)$$

$$\Delta T\&lSR_{i,t+f} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta CPI_{i,t} + B_3\Delta IP_{i,t} + B_4\Delta EXR_{i,t} + B_5\Delta OIL_t + B_6GFC_t + B_7MR_{i,t} + B_8\Delta DESI_{i,t} + \varepsilon_{i,t+f} \quad (4.6)$$

$$\Delta T\&lSR_{i,t+f} = \alpha_0 + B_1\Delta M2_{i,t} + B_2\Delta CPI_{i,t} + B_3\Delta IP_{i,t} + B_4\Delta EXR_{i,t} + B_5\Delta OIL_t + B_6GFC_t + B_7MR_{i,t} + B_8\Delta DESI_{i,t} + B_9\Delta DEPU_{i,t} + B_{10}\Delta UESI_{i,t} + B_{11}\Delta UEPU_{i,t} + \varepsilon_{i,t+f} \quad (4.7)$$

Where i represents the country, is the forecasting horizon for one, three, six, and twelve months respectively.

Table 4.3 depicts the results of regression models (6) and (7)[4] for each country being considered. The impact of $\Delta DESI$, $\Delta DEPU$, $\Delta UESI$, and $\Delta UEPU$ on average future $T\&lSR$ varies across countries and time horizons. Over a 1-month forecast horizon, the inclusion of $(\Delta DESI,\ \Delta DEPU)$ and $(\Delta UESI, \Delta UEPU)$ into models (6) and (7), respectively, did a poor job at explaining future $T\&lSR$ in France, as the adjusted R^2

[4] We do not report the estimated coefficients for equation 5 due to a lack of space. However, we mentioned the adjusted R^2 coefficient of model 5 within the context of the discussion.

is not statistically significant. However, over a 3-month forecast horizon, the adjusted R^2 rose to 5.2% and 4.6% for models (6) and (7), respectively. Regardless of the improvement in the adjusted R^2, MR is the only factor that has a significant and positive effect on future $T\&lSR$, indicating that French $T\&lSR$ tends to be higher following periods of positive MR. Over a 6-month forecast horizon, $\Delta DEPU$ and $\Delta UEPU$ weakly and negatively influence future HSR in France. Two standard deviation increases in $\Delta DEPU$ and $\Delta UEPU$ depress future $T\&lSR$ by 0.33% (-0.055 × 6 months) and 0.408% (0.056 × 6 months), respectively. As a result, future $T\&lSR$ is likely to be lower after periods of higher domestic and European economic policy uncertainty. This finding is consistent with Cai (2018), who pointed out that US monetary policy uncertainty negatively predicted Australian stock returns after the European debt crisis for a few months. However, as the forecast horizon extends to one year (12 months), the predictive power of the independent variables turns out to be irrelevant. Therefore, there is an arbitrage opportunity over the short and medium-term (3 and 6 months), but this opportunity disappears in the long run.

In the UK, the additions of $\Delta DESI$ and $\Delta DEPU$ did not significantly add to the explanatory power of the model (6) over a 1-month horizon. However, the adjusted R^2 remarkably increased to 11.9% as $\Delta UESI$ and $\Delta UEPU$ were included in the model (7). Two standard deviation rises in $\Delta UESI$ cause approximately 1% increases in future $T\&lSR$, suggesting that periods of higher $\Delta UESI$ tend to be followed by an improvement in future $T\&lSR$. This finding is consistent with Singal (2012) and Chen (2015), who documented that the domestic consumer confident index has a positive predictive power for hospitality stock returns in the US and Taiwan, respectively. However, over medium horizons (6 months) and long horizons (12 months), all

variables turn out to be irrelevant in predicting $T\&lSR$. Therefore, the arbitrage chance is limited to 1-month horizons, which is consistent with Schmeling (2009), who indicated that noise trading effects vanish over more extended periods. In other words, the irrational investors who overreacted to good news (increasing economic sentiment) affect stock prices only in the short run. Therefore, the noise traders' demand shock moves the stock prices temporarily away from the state of equilibrium. In such a case, rational arbitragers can take positions and exploit the noise traders' misperception and make profits from trading such stocks (De Long et al., 1990).

In the case of Spain, $\Delta DESI$ and $\Delta DEPU$ increased the adjusted R^2 of the model (6) to 12%, compared to 7.5% in the model (5). Remarkably, the addition of $\Delta UESI$ and $\Delta UEPU$ into the model (7) dramatically improves the predictive power to 25.6% over 1-month forecasting horizons. Two standard deviation rises in $\Delta UESI$ and decreases in $\Delta UEPU$ lead future $T\&lSR$ to increase and decrease by 1.8% and 0.07%, respectively. Therefore, future Spanish $T\&lSR$ tend to increase substantially after periods of higher regional economic sentiment, wh while slightly decreasing after periods of higher regional economic policy uncertainty. However, over 3-, 6-, and 12-month horizons, all models did not show a significant predictive power for $T\&lSR$. Consequently, there are limits to arbitrage in the short term, but these limits become unexciting for medium- and long-term horizons, similar to the UK case.

The exception is Germany, where all variables have no significant predictive power for overall time horizons. Thus, and did not seem to cause hospitality stock mispricing that would allow for highly profitable arbitrage strategies. As a result, there are arbitrage opportunities for those trading the Germany hospitality stock index returns

in the short, medium, and long term, this finding is in line with Smales (2017), who reported that changes in the consumer confident index had no predictive explanatory power for the overall stock market and cross-sectional stocks, such as large-cap stocks, small stocks, growth stocks, and value stocks in the US. And also is in line with Finter et al. (2012), which they found that investor sentiment has weak predictive power for overall stock market returns in Germany, attributing it to the dominant share of institutional investors in the stock market as compared to the small share of retail investors who are supposed to changes sentiment changes. Therefore, institutional investors very quickly observe and correct any stock mispricing that emerges from sentiment changes.

Table 4.3: OLS Prediction Regression Model Results

country	UK							
Horizon	1-Month		3-Months		6-Months		12-Months	
Model	Model 6	Model 7	Model 6	Model 7	Model 6	Model 7	Model 6	Model 7
α_0	1.132*	1.007*	0.388	0.333	0.964	0.914	0.789	0.762
$\Delta M2$	-0.064	0.033	1.262	1.286	-0.333	-0.309	-0.042	-0.058
ΔCPI	-1.776*	-1.544	-1.352	-1.226	0.230	0.342	-0.122	-0.021
ΔIP	0.279	0.180	0.877*	0.861*	-0.064	-0.081	0.247	0.280
ΔEXR	0.095	0.023	0.168**	0.150*	-0.012	-0.030	-0.031	-0.020
ΔOIL	-0.021	-0.049	-0.006	-0.015	-0.016	-0.025	-0.022	-0.023
GFC	-1.813	-1.534*	-1.384	-1.297	-2.294	-2.210	-1.210	-1.219
MR	0.116	-0.025	0.143	0.110	-0.084	-0.117	-0.124	-0.095
$\Delta DESI$	0.009	-0.093	-0.178	-0.215	-0.077	-0.111	0.162	0.156
$\Delta DEPU$	0.011	0.0127	-0.002	-0.008	0.019*	0.014	0.005	-0.008
$\Delta UESI$		1.023***		0.307		0.295		-0.059
$\Delta UEPU$		0.002		0.013		0.010		0.025
Adjusted- R^2	1.8%	11.9%	6%	6.6%	1.6%	1.7%	-0.08%	-0.3%
F-statistic	1.437	3.610***	2.598***	2.368***	1.932	1.355	0.791	0.927
Obs	211	211	209	209	206	206	200	200
country	France							
Horizon	1-Month		3-Months		6-Months		12-Months	
Model	Model 6	Model 7	Model 6	Model 7	Model 6	Model 7	Model 6	Model 7
α_0	0.409	0.387	1.057**	1.048**	1.339***	1.323***	0.796	0.817
$\Delta M2$	0.405	0.359	-0.767	-0.772	-0.369	-0.364	-0.559	-0.535
ΔCPI	-1.176	-1.104	-2.561	-2.474	-2.488	-2.231	-0.109	-0.356
ΔIP	-0.303	-0.406	-0.119	-0.153	-0.304	-0.357	-0.130	-0.045
ΔEXR	-0.186	-0.183	0.206	0.218	-0.297	-0.265	0.151	0.130

ΔOIL	0.006	-0.005	-0.016	-0.024	0.037	0.019	-0.033	-0.016
GFC	-2.167	-1.985*	-1.656	-1.622	-2.084	-2.068	-0.232	-0.322
MR	-0.062	-0.097	0.182**	0.188**	-0.056	-0.018	-0.007	-0.019
$\Delta DESI$	0.331	-0.036	0.303	0.251	-0.118	-0.099	0.150	0.311
$\Delta DEPU$	0.015	0.020	0.011	0.003	-0.025**	-0.055***	-0.017	-0.000
$\Delta UESI$		0.677*		0.126		0.056		-0.341
$\Delta UEPU$		-0.014		0.019		-0.068***		-0.036
Adjusted- R^2	-0.00%	0.06%	5.2%	4.6%	3.2%	5.7%	-1.3%	-0.8%
F-statistic	0.988	1.120	2.278**	1.912**	1.761*	2.136**	0.706	0.849
Obs	211	211	209	209	206	206	200	200

country	Spain							
Horizons	1-Month		3-Months		6-Months		12-Months	
Model	Model 6	Model 7	Model 6	Model 7	Model 6	Model 7	Model 6	Model 7
α_0	0.487	0.080	0.660	0.568	0.412	0.393	0.336	0.290
$\Delta M2$	-0.247	-0.756	0.100	0.082	-0.076	-0.091	-0.101	-0.126
ΔCPI	-0.730	-0.756	-1.452	-1.436	0.896	0.900	1.028	1.029
ΔIP	0.741	-0.290	0.631	0.166	-0.576	-0.627	-0.805	-0.936
ΔEXR	0.279	0.283	-0.310	-0.311	0.211	0.211	-0.572**	-0.574**
ΔOIL	-1.698	-1.958	-2.452	-2.490	-3.825	-3.823	-2.318	-2.314
GFC	-0.046	-0.075	0.010	-0.012	0.003	0.000	0.026	0.019
MR	0.295	0.128	0.005	-0.075	-0.199	-0.209	0.053	0.029
$\Delta DESI$	0.377***	-0.331	0.165	-0.266	0.359	0.302	-0.221	-0.359
$\Delta DEPU$	-0.042***	-0.011	0.011	0.004	-0.022	-0.024	0.016	0.011
$\Delta UESI$		1.860***		1.110***		0.144		0.351
$\Delta UEPU$		-0.074***		0.016		0.005		0.011
Adjusted- R^2	12%	25.2%	0.04%	2.9%	1.9%	1%	1.8%	1.2%

F-statistic	4.193***	7.455***	1.098	1.566	1.455	1.192	1.422	1.232
Obs	211	211	209	209	206	206	200	200
country	Germany							
Horizons	1-Month		3-Months		6-Months		12-Months	
Model	Model 6	Model 7	Model 6	Model 7	Model 6	Model 7	Model 6	Model 7
α_0	0.762	0.705	0.113	0.136	-0.230	-0.443	-0.078	0.817
$\Delta M2$	-1.369	-1.541	0.276	0.365	1.636	1.428	0.412	-0.535
ΔCPI	-1.117	-1.214	-1.221	-1.173	-0.736	-0.884	-1.793	-0.356
ΔIP	-0.282	-0.272	-0.322	-0.326	-0.091	-0.094	0.487	-0.045
ΔEXR	0.089	0.090	0.399	0.398	-0.639**	-0.639	0.150	0.130
ΔOIL	-0.051	-0.044	0.037	0.033	0.044	0.052	-0.032	-0.016
GFC	-1.710	-1.819	-1.875	-1.821	-2.374	-2.520	-0.746	-0.322
MR	0.054	0.086	0.054	0.037	0.017	0.064	0.163	-0.019
$\Delta DESI$	0.743	1.086*	0.534	0.356	0.455	0.856	-0.340	0.311
$\Delta DEPU$	-0.011	-0.054	0.001	0.022	0.009	-0.094	-0.022	-0.000
$\Delta UESI$		-0.476		0.247		-0.542		-0.341
$\Delta UEPU$		0.040		-0.019		0.095		-0.036
Adjusted- R^2	-0.00%	-0.70%	-1.30%	-0.20%	0.03%	0.01%	-1.50%	-0.80%
F-statistic	0.988	0.863	0.685	0.569	1.090	1.023	0.652	0.849
Obs	211	211	209	209	206	206	200	200

In the same way, we utilized the multi-factor CAPM, as we had done previously, to check whether our prediction regression models were robust or not. Results indicated that our results are robust[5].

4.6 Conclusion

This paper sought to investigate the role of economic sentiment and economic policy uncertainty both domestically and throughout Europe in explaining the changes in travel and leisure stock index returns in top European tourism countries, namely France, Germany, Spain, and the UK during the period 2001M02 to 2018M09. The findings indicate that $\Delta DESI$, $\Delta DEPU$, $\Delta UESI$ and $\Delta UEPU$ differently affect contemporaneous $T\&lSR$ across countries. In the UK, $\Delta DEPU$, and $\Delta UEPU$ weakly, marginally, and negatively affect $T\&lSR$, while $\Delta UESI$ has a positive and strong impact on $T\&lSR$. In France, $\Delta UESI$ has a dominant positive effect on $T\&lSR$, while $\Delta UEPU$ affects $T\&lSR$ weakly and negative. Spain's case also shows that $\Delta UESI$ predominantly and positively influences $T\&lSR$. In contrast, in Germany, neither $\Delta DESI$ and $\Delta DEPU$, nor $\Delta UESI$ and $\Delta UEPU$ has a significant effect on $T\&lSR$. This study also explored the predictive power of economic sentiment and economic policy uncertainty both domestically and throughout Europe for future travel and leisure stocks at various time horizons in France, Germany, Spain, and the UK. These results reveal that in the short term, $\Delta UESI$ have strong predictive power over future $T\&lSR$ in the UK and Spain, while in France, $\Delta UEPU$ and can moderately predict future $T\&lSR$ in the medium term. The exceptional case in Germany, where both economic sentiment and economic policy uncertainty (domestic and European) are irrelevant to future$T\&lSR$.

[5] Results are available upon request.

4.6.1 Practical Implications

Traders can use economic sentiment and economic policy uncertainty to establish arbitrageur strategies since these variables significantly affect $T\&lSR$ and have predictive power for future $T\&lSR$. For instance, in the UK, $\Delta UESI$ significantly and substantially influences future travel and leisure stock returns in the short term. Therefore, traders should increase their holdings in UK travel and leisure stocks for one month following a high regional economic sentiment period and then reverse operate (sell) to make a profit. Likewise, in the Spanish case, future $T\&lSR$ is highly derived by $\Delta UESI$, so by holding Spanish travel and leisure stocks for one month following a high regional economic sentiment period and then reverse operating, traders can arrange their arbitrageur strategy to make a profit. However, in France, the recommended arbitrageur strategy is to sell travel and leisure stocks in the case of higher domestic and European economic policy uncertainty and purchase them over the medium term. Germany is an exception, as there is no room to set up an arbitrageur strategy since both economic sentiment and economic policy uncertainty have no significant predictive power over future travel and leisure stock returns.

Further, European economic sentiment and economic policy uncertainty's predictive powers over travel and leisure stock returns can also be useful for hospitality industry managers in planning their operations during periods of recovery and recession, especially in France, Spain, and the UK. In the case of higher European economic sentiment and lower economic policy uncertainty, managers should increase their production to meet the expected higher demand. However, in the case of lower regional economic sentiment and higher economic policy uncertainty, the primary managerial strategy should be to reduce production and focus on marketing strategies

to motivate demand for touristic products. Meanwhile, in Germany, managers cannot use economic sentiment or economic policy uncertainty to plan their operations, as they have no significant predictive power over travel and leisure stock returns.

4.6.2 Theoretical Implications

This study supports the theoretical behavioural approach, which postulates that times of irrational sentiment (overly high or low economic sentiment and economic policy uncertainty) characterize overly optimistic or pessimistic economic condition expectations (Schmeling, 2009). Therefore, irrational sentiment can only persist and influence future travel and leisure stock prices for a specific period and then travel, and leisure stock prices return to equilibrium (Brown and Cliff, 2005). This study also supports the theoretical notion that if a firm stock price is the present value of all firms' future cash flows, then the information in the prior reading of sentiment (economic sentiment and economic policy uncertainty) is already reflected in the firm stock price. Thus, a firm stock price will only change when new information in the form of a changed sentiment is known (Singal, 2012). Based on the above, this study also has theoretical implications for academicians. They can enhance their knowledge about applying theoretical finance theory to understand better the transmission mechanisms regarding economic sentiment and economic policy uncertainty's effects on travel and leisure stock returns.

4.6.3 Limitations and Future Research

This study's limitations include its lack of data on the travel and leisure stock index, which caused the authors to exclude other major European tourist destinations, such as Italy. Moreover, the economic policy uncertainty index data is limited to certain countries and not available for a large number of European countries, which resulted in this paper investigating a smaller sample of countries using a panel data approach.

Although the economic policy uncertainty index reflects the Brexit factor, Brexit's effect may be considered one of this study's limitations: this study focuses only on the impact of economic sentiment and economic policy uncertainty on travel and leisure stock index returns. Future studies should look at the effect of behavioural factors and stock market integrity on the link between economic sentiment and economic policy uncertainty changes and present and future travel and leisure stock index returns. Despite the important results found in this study and its policy implications, it does have some limitations.

Chapter 5

CONCLUSION

Considering the importance of the tourism industry in stimulating economic growth, the primary aim of this thesis is to investigate the impact of monetary policy, sentiment, and economic conditions on the performance of tourism stocks in top tourism destination countries. Therefore, investigating this nexus will aid monetary policymakers, tourism company executives, and investors in better understand the determining factors that influence the tourism industry's stock performance.

Chapter 2 considered the role of sentiment and monetary policy changes (both domestic and the US) in explaining the changes in the tourism firms' stock returns in Mexico as the top Latin American tourism destinations during the period 1998M03-2019M12. In order to study the influence of sentiment and monetary policy changes on the stock returns of tourism firms, we conducted ordinary least square (OLS) regression estimations using several models following (Singal, 2012). The empirical results showed that DIFINT has a negative impact on tourist stock prices. Thus it suggests that as financial links between Mexico and the US strengthen and the momentary divergence widens, the tourism stock will decline. Besides, results show that ΔMABCI and ΔMACCI have a substantial and positive impact on tourism firm stock returns. However, ΔUSBSCI and ΔUSCCI have an insignificant impact. Among the models studied in this study, monetary policy and domestic sentiment are the best at explaining variations in Mexican tourism stock returns. Furthermore, the results are

robust, with the coefficient remaining intact even when the excess and real returns are used instead of nominal returns.

Our findings have major implications for investors (both Mexican and international) who wish to invest in Mexican tourist stocks, as well as for tourism business managers. An investing strategy can be used based on changes in the business and consumer sentiment in Mexico. Tourism company managers should take into consideration people's perspective regarding future economic conditions (domestic and US sentiments) and the recent changes in the US monetary policy when making their financial choices. Because of the variations in financial and economic integration between the United States and other nations, the substantial impact of US monetary policy on the stock returns of tourist companies may vary. Furthermore, Investors will raise their holdings in Mexican tourism firms when business and consumer sentiment is increasing. Conversely, when business and consumer sentiment is decreasing, they implement a reversal stock position. Also, Investors should take into consideration the spillover effect on the U.S. monetary policy and interest rate differentials between Mexico and the U.S. in making investment decisions in the tourism industry.

Chapter 3 study examined the effects of economic conditions (business and finance) on the stock performance of tourism, hospitality, and leisure firms operating in significant tourist destination countries (France, the U.S., Spain, China, the U.K., Germany, Mexico, and Thailand), between 2004 Q1 and 2018 Q4. Furthermore, we conducted first and second-generation panel data analysis to give a complete picture of how FD and BCs with integrating macroeconomic variables affect the performance of the tourism stock. First, Westerlund (2007) and Kao (1999) tests confirm the cointegration link between the interested variables. Second, the (DOLS) long-term

estimation revealed that FD and BCs positively impacted tourism firm stock prices. The results also revealed that the coefficient of international tourist arrivals (TA) has a larger effect on the tourism stock prices than the other variables examined in this research. Moreover, as we expected, the influence of the CPI and the RER has a negative impact on the change in the value of tourism stock prices. As shown in this research, it may be concluded that an in-depth empirical analysis is appropriate for any nation that is considering emphasizing the country's tourism industry as part of a worldwide development strategy. As a consequence of our findings in this study, which revealed that TA is the predominant factor affecting tourism stock prices, policymakers should consider this factor in sending and receiving tourist nations. Governments and policymakers should promote and make it easier for international visitors to arrive. For example, the total tourism budget and governmental or private tourist development activities have all been revised or altered. In addition, to mitigate the risk of economic and financial shocks in tourist-receiving and exporting countries.

Chapter 4 sought to investigate the role of economic sentiment and economic policy uncertainty both domestically and throughout Europe in explaining the changes in travel and leisure stock index returns in top European tourism countries, namely (France, Germany, Spain, and the UK) during the period 2001M02 to 2018M09. The results revealed that ΔDEPU and ΔUEPU have a negative impact on T&lSR, while ΔUESI has a positive and significant impact on T&lSR. In France, ΔUESI has a dominating positive impact on T&lSR, while ΔUEPU has a weak and adverse effect on T&lSR. In addition, in the case of Spain, results show that ΔUESI has only a positive and significant impact on T&LSR. However, neither ΔDESI and ΔDEPU nor ΔUESI and ΔUEPU have a statistically significant impact on T&lSR in Germany.

Additionally, this study examined the predictive potential of economic sentiment and economic policy uncertainty in France, Germany, Spain, and the UK for future travel and leisure stocks over various time horizons. In the short term, ΔUESI has strong predictive power over future T&lSR in the UK and Spain, while in France, ΔUEPU can moderately predict future T&lSR in the medium term. The exceptional case in Germany, where both economic sentiment and economic policy uncertainty (domestic and European) are irrelevant to future T&lSR. The policy implication suggested by this study for traders and investors is the arbitrage strategies' since all the variables significantly affect T&lSR and have predictive power over different time horizons. For example, when economic sentiment (domestic and regional) increases, traders should raise their position in travel and leisure stocks and then reverse the process (sell) in order to generate a profit in the period when economic sentiment deteriorates. Moreover, the suggested arbitrageur strategy is to sell travel and leisure stocks in the event of increased domestic and European economic policy uncertainty. Furthermore, the predictive powers of European economic sentiment and economic policy uncertainty over travel and leisure stock returns can be helpful for hospitality industry managers in planning their operations during periods of recovery and recession, particularly in France, Spain, and the UK. As a result, managers should boost output to satisfy projected greater demand if European economic sentiment improves and economic policy uncertainty decreases.

Based on the facts listed above, this thesis may also offer theoretical insights for academics. This can enable them to better understand how to use theoretical finance theory to better understand the effects of monetary policy, sentiments, and economic conditions on travel and leisure stock returns.

REFERENCES

Al-Najjar, B. (2014). Corporate governance, tourism growth and firm performance: Evidence from publicly listed tourism firms in five Middle Eastern Countries. *Tourism Management, 42,* 342–351.

Asem, E., Chung, J., Cui, X., & Tian, G. Y. (2016). Liquidity, investor sentiment and price discount of SEOs in Australia. *International Journal of Managerial Finance, 12*(1), 25-51.

Asprem, M. (1989). Stock prices, asset portfolios, and macroeconomic variables in ten European countries. *Journal of Banking & Finance, 13*(4-5), 589-612.

Bahreini, M., & Adaoglu, C. (2018). Dividend payouts of travel and leisure companies in Western Europe: An analysis of the determinants. *Tourism Economics, 24*(7), 801-820.

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics, 131*(4), 1593-1636.

Balaguer, J., & Cantavella-Jorda, M. (2002). Tourism as a long-run economic growth factor: the Spanish case. *Applied economics, 34*(7), 877-884.

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.

Başarir, Ç., & Çakir, Y. N. (2015). Causal interactions between CO2 emissions, financial development, energy, and tourism. *Asian Economic and Financial Review, 5*(11), 1227-1238.

Bayram, S. G. (2017). Rational–Irrational Investor Sentiments and Emerging Stock Market Returns: A Comparison from Turkey. *Journal of Emerging Market Finance, 16*(3), 219-245.

Blackburne III, E. F., & Frank, M. W. (2007). Estimation of nonstationary heterogeneous panels. *The Stata Journal, 7*(2), 197-208.

Blake, A., Sinclair, M. T., & Soria, J. A. C. (2006). Tourism productivity: evidence from the United Kingdom. *Annals of Tourism Research*, 33(4), 1099-1120.

Bloom, N. (2009). The impact of uncertainty shocks. *econometrica, 77*(3), 623-685.

Booth, J. R., & Booth, L. C. (1997). Economic factors, monetary policy, and expected returns on stocks and bonds. *Economic Review-Federal Reserve Bank of San Francisco*, (2), 32.

Breusch, T. S., & Pagan, A. R. (1980). The Lagrange multiplier test and its applications to model specification in econometrics. *The review of economic studies, 47*(1), 239-253.

Brown, G. W., & Cliff, M. T. (2005). Investor sentiment and asset valuation. *The Journal of Business, 78*(2), 405-440.

Cai, Y. (2018). Predictive power of US monetary policy uncertainty shock on stock returns in Australia and New Zealand. *Australian Economic Papers, 57*(4), 470-488.

Campbell, J. Y. (1987). Stock returns and the term structure. *Journal of financial economics, 18*(2), 373-399.

Canarella, G., Miller, S. M., & Pollard, S. K. (2014). Purchasing power parity between the UK and Germany: the euro era. *Open Economies Review, 25*(4), 677-699.

Cernat, L., & Gourdon, J. (2012). Paths to success: Benchmarking cross-country sustainable tourism. *Tourism Management, 33*(5), 1044-1056.

Chang, M. J., & Su, C. Y. (2015). Does real interest rate parity really hold? New evidence from G7 countries. *Economic Modelling, 47*, 299-306.

Chen, M. H. (2005). Stock returns and changes in the business cycle. *Asia Pacific Management Review, 10*(5), 321-327.

Chen, M. H. (2007a). Hotel stock performance and monetary conditions. *International Journal of Hospitality Management, 26*(3), 588-602.

Chen, M. H. (2007b). Interactions between business conditions and financial performance of tourism firms: Evidence from China and Taiwan. *Tourism Management, 28*(1), 188-203.

Chen, M. H. (2007c). Macro and non-macro explanatory factors of Chinese hotel stock returns. *International Journal of Hospitality Management, 26*(4), 991-1004.

Chen, M. H. (2012). State dependence in the influence of monetary policy regime shifts on hospitality index returns. *International Journal of Hospitality Management, 31*(4), 1203-1212.

Chen, M. H. (2014). Asymmetric effects of monetary policy changes on hospitality stock performance. *Tourism Economics, 20*(3), 545-566.

Chen, M. H. (2015). Understanding the impact of changes in consumer confidence on hotel stock performance in Taiwan. *International Journal of Hospitality Management*, 50, 55-65.

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., Agrusa, J., Krumwiede, D., & Lu, H. J. (2012). Macroeconomic influences on Japanese hotel stock returns. *Journal of Hospitality Marketing & Management, 21*(1), 81-99.

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, M. H., Liao, C. N., & Huang, S. S. (2010). Effects of shifts in monetary policy on hospitality stock performance. *The Service Industries Journal, 30*(2), 171-184.

Chen, M.H. (2010). The economy, tourism growth and corporate performance in the Taiwanese hotel industry. *Tourism Management*, 31(5), 665-675.

Chen, N. F. (1991). Financial investment opportunities and the macroeconomy. *The Journal of Finance, 46*(2), 529-554.

Chen, N. F., Roll, R., & Ross, S. A. (1986). Economic forces and the stock market. *Journal of business*, 383-403.

Copeland, T. E., Weston, J. F., & Shastri, K. (2005). *Financial theory and corporate policy* (Vol. 4). Boston: Pearson Addison Wesley.

De Grauwe, P. (2011). Animal spirits and monetary policy. *Economic Theory, 47*(2-3), 423-457.

De Long, J. B., Shleifer, A., Summers, L. H., & Waldmann, R. J. (1990). Noise trader risk in financial markets. *Journal of Political Economy, 98*(4), 703-738.

Demir, E., & Ersan, O. (2018). The impact of economic policy uncertainty on stock returns of Turkish tourism companies. *Current Issues in Tourism*, 21(8), 847-855.

Demir, E., Alıcı, Z. A., & Chi Keung Lau, M. (2017). Macro explanatory factors of Turkish tourism companies' stock returns. *Asia Pacific Journal of Tourism Research, 22*(4), 370-380.

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American statistical association, 74*(366a), 427-431.

Dragouni, M., Filis, G., Gavriilidis, K., & Santamaria, D. (2016). Sentiment, mood and outbound tourism demand. *Annals of Tourism Research*, 60, 80-96.

Dritsakis, N. (2004). Tourism as a long-run economic growth factor: an empirical investigation for Greece using causality analysis. *Tourism economics, 10*(3), 305-316.

Dumitrescu, E. I., & Hurlin, C. (2012). Testing for Granger non-causality in heterogeneous panels. *Economic modeling, 29*(4), 1450-1460.

Ersan, O., Akron, S., & Demir, E. (2019). The effect of European and global uncertainty on stock returns of travel and leisure companies. *Tourism Economics, 25*(1), 51-66.

Faber, B., & Gaubert, C. (2019). Tourism and economic development: evidence from Mexico's coastline. *American Economic Review, 109*(6), 2245-93.

Fama, E. F. (1981). Stock returns, real activity, inflation, and money. *The American economic review, 71*(4), 545-565.

Fama, E. F., & French, K. R. (1988). Dividend yields and expected stock returns. *Journal of financial economics, 22*(1), 3-25.

Finter, P., Niessen-Ruenzi, A., & Ruenzi, S. (2012). The impact of investor sentiment on the German stock market. *Zeitschrift für Betriebswirtschaft, 82*(2), 133-163.

Giavazzi, F., & McMahon, M. (2012). Policy uncertainty and household savings. *Review of Economics and Statistics, 94*(2), 517-531.

Goeldner, C. R., & Ritchie, J. B. (2007). Tourism principles, practices, philosophies, 4th ed, , New York: John Wiley & Sons.

Gokmenoglu, K. K., & Hadood, A. A. A. (2019). Volatility spillovers and time varying correlation for Chinese tourism firms. *Asia Pacific Journal of Tourism Research, 24*(6), 584-596.

Goukasian, L., Ma, Q., & Majbouri, M. (2012). The monetary policy risks of hospitality stocks. *Cornell Hospitality Quarterly*, *53*(4), 339-346.

Goyenko, R. Y., & Ukhov, A. D. (2009). Stock and bond market liquidity: A long-run empirical analysis. *Journal of Financial and Quantitative Analysis*, *44*(1), 189-212.

Grossmann, A., Simpson, M. W., & Ozuna, T. (2014). Investigating the PPP hypothesis using constructed US dollar equilibrium exchange rate misalignments over the post-bretton woods period. *Journal of Economics and Finance*, *38*(2), 235-268.

Gu, Z. (1995). The relationship between interest rate and tourism activities. *International Journal of Hospitality Management*, *14*(3-4), 239-243.

Güney, P. Ö., & Hasanov, M. (2014). Real interest rate parity hypothesis in post-Soviet countries: Evidence from unit root tests. *Economic Modelling*, *36*, 120-129.

Hadi, D. M., Irani, F., & Gökmenoğlu, K. K. (2020). External determinants of the stock price performance of tourism, travel, and leisure firms: Evidence from the United States. *International Journal of Hospitality & Tourism Administration*, 1-17.

Hadi, D. M., Katircioglu, S., & Adaoglu, C. (2020). The vulnerability of tourism firms' stocks to the terrorist incidents. *Current Issues in Tourism*, *23*(9), 1138-1152.

Harvey, C. R. (1991). The term structure and world economic growth. Centre for Research in Security Prices, Graduate School of Business, University of Chicago.

Heath, E. B., & Kopchak, S. J. (2015). The response of the Mexican equity market to US monetary surprises. *Journal of Emerging Market Finance*, *14*(2), 87-111.

Hofstede, G. (2001). Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations, 2nd ed, Beverly Hills, CA: SAGE.

Hsueh, S. J., Hu, Y. H., & Tu, C. H. (2013). Economic growth and financial development in Asian countries: A bootstrap panel Granger causality analysis. *Economic Modelling, 32*, 294-301.

IMF. (2019). International Monetary Fund. Retrieved from https://www.imf.org/external/index.htm.

Jansen, W. J., & Nahuis, N. J. (2003). The stock market and consumer confidence: European evidence. *Economics Letters, 79*(1), 89-98.

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.

Jeon, S., Kang, I., & Lee, S. (2004). The relationship between the persistence of abnormal earnings and the usefulness of accounting information in hotel companies. *Tourism Management, 25*(6), 735-740.

Kandil, M. (2009). Spillover effects of US business cycles on Latin America and the Caribbean. *Journal of economic issues, 43*(4), 971-996.

Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of econometrics, 90*(1), 1-44.

Kao, C., & Chiang, M. H. (2001). On the estimation and inference of a cointegrated regression in panel data. In *Nonstationary panels, panel cointegration, and dynamic panels*. Emerald Group Publishing Limited.

Katircioglu, S. (2017). Investigating the role of oil prices in the conventional EKC model: evidence from Turkey. *Asian Economic and Financial Review, 7*(5), 498.

Katircioglu, S. T. (2009a). Revisiting the tourism-led-growth hypothesis for Turkey using the bounds test and Johansen approach for cointegration. *Tourism Management, 30*(1), 17-20.

Katircioglu, S., Katircioğlu, S., & Altinay, M. (2018a). Interactions between tourism and financial sector development: evidence from Turkey. *The Service Industries Journal, 38*(9-10), 519-542.

Keynes, J. M. (1936). The general theory of employment, interest and money (london, 1936). *KeynesThe General Theory of Employment, Interest and Money1936*.

Khairnar, K., & Chinchwadkar, R. (2015). Real Exchange Rate and Real Interest Rate Differential: A Cointegration Approach with Structural Shifts. *Journal of Quantitative Economics, 13*(2), 201-214.

Kim, H. B., Park, J. H., Lee, S. K., & Jang, S. S. (2012). Do expectations of future wealth increase outbound tourism? Evidence from Korea. *Tourism Management, 33*(5), 1141 –1147.

Kumar, R. R., & Kumar, R. (2013). Exploring the developments in urbanisation, aid dependency, sectoral shifts and services sector expansion in Fiji: a modern growth perspective. *Global Business and Economics Review, 15*(4), 371-395.

Lee, G. (2007). Long-run equilibrium relationship between inward FDI and productivity. *Journal of Economic Development, 32*(2), 183.

McKinnon, R. I. (1964). Foreign exchange constraints in economic development and efficient aid allocation. *The Economic Journal, 74*(294), 388-409.

Meese, R. A., & Rogoff, K. (1988). Was it real? The exchange rate interest rate relation, 1973-1984. *Journal of Finance, 43*(4), 933-948.

Ming-Hsiang, C. (2012). A timing strategy for investments in US hospitality stocks. *Journal of Hospitality & Tourism Research, 36*(3), 283-311.

Mohapatra, S.M. (2017). A Comparison of exchange rate exposure between manufacturing vis-à-vis service sector firms in India. Economic Papers*: A journal of applied economics and policy*, 36(1), 75-85.

Narayan, P. K., & Smyth, R. (2007). A panel cointegration analysis of the demand for oil in the Middle East. *Energy Policy, 35*(12), 6258-6265.

Newey, W. K., & West, K. D. (1987). A simple, positive semi-definite, heteroskedasticity and autocorrelationconsistent covariance matrix. *Econometric*a. 55 (3), 703–708.

Newey, W. K., & West, K. D. (1987). Hypothesis testing with efficient method of moments estimation. *International Economic Review*, 777-787.

Nidhiprabha, B. (2016). Impacts of Quantitative Monetary Easing Policy in the United States and Japan on the Thai Economy. *The Developing Economies*, *54*(1), 80-102.

Nofsinger, J. R. (2005). Social mood and financial economics. *The Journal of Behavioral Finance*, *6*(3), 144-160.

NTTO. (2018). US National Travel and Tourism Office. Retrieved from https://www.trade.gov/national-travel-and-tourism-office

O'Connell, P. G. (1998). The overvaluation of purchasing power parity. *Journal of international economics*, *44*(1), 1-19.

Ohlan, R. (2017). The relationship between tourism, financial development and economic growth in India. *Future Business Journal*, *3*(1), 9-22.

Otoo, M. W. (1999). Consumer sentiment and the stock market. *Available at SSRN 205028*.

Pedroni, P. (2001). Fully modified OLS for heterogeneous cointegrated panels. In *Nonstationary panels, panel cointegration, and dynamic panels*. Emerald Group Publishing Limited.

Perez-Liston, D. , & Huerta-Sanchez, D. (2012). Does investor sentiment affect Mexican stock market returns and volatility?. *The Global Journal of Finance and Economics*, *9*(2), 121-132.

Perez-Liston, D., Huerta-Sanchez, D., & Gutierrez, J. (2018). Do domestic sentiment and the spillover of US investor sentiment impact Mexican stock market returns? *Journal of Emerging Market Finance*, *17*(2_suppl), S185-S212.

Pesaran, H. M. (2004). General diagnostic tests for cross-sectional dependence in panels. *University of Cambridge, Cambridge Working Papers in Economics, 435*.

Pesaran, M. H. (2006). Estimation and inference in large heterogeneous panels with a multifactor error structure. *Econometrica*, *74*(4), 967-1012.

Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross-section dependence. *Journal of applied econometrics*, *22*(2), 265-312.

Pesaran, M. H., Ullah, A., & Yamagata, T. (2008). A bias-adjusted LM test of error cross-section independence. *The Econometrics Journal*, *11*(1), 105-127.

Phillips, P. C., & Perron, P. (1988). Testing for a unit root in time series regression. *Biometrika*, 75(2), 335-346.

Sarwar, G., & Khan, W. (2017). The effect of US stock market uncertainty on emerging market returns. *Emerging Markets Finance and Trade*, 53(8), 1796-1811.

Schmeling, M. (2009). Investor sentiment and stock returns: Some international evidence. *Journal of empirical finance*, *16*(3), 394-408.

Shaeri, K., & Katircioğlu, S. (2018). The nexus between oil prices and stock prices of oil, technology and transportation companies under multiple regime shifts. *Economic research-Ekonomska istraživanja*, *31*(1), 681-702.

Shahbaz, M., Kumar, R. R., Ivanov, S., & Loganathan, N. (2017). The nexus between tourism demand and output per capita with the relative importance of trade openness and financial development: A study of Malaysia. *Tourism Economics*, *23*(1), 168-186.

Shastri, S., & Shastri, S. (2016). Exchange rate interest rate linkages in India: an empirical investigation. *Journal of Financial Economic Policy*, *8*(4), 443-457.

Singal, M. (2012). Effect of consumer sentiment on hospitality expenditures and stock returns. *International Journal of Hospitality Management*, *31*(2), 511-521.

Singal, M. (2012). Effect of consumer sentiment on hospitality expenditures and stock returns. *International Journal of Hospitality Management*, 31(2), 511-521.

Smales, L. A. (2017). The importance of fear: investor sentiment and stock market returns. *Applied Economics*, *49*(34), 3395-3421.

Smales, L. A. (2017). The importance of fear: investor sentiment and stock market returns. *Applied Economics*, 49(34), 3395-3421.

Sui, L., & Sun, L. (2016). Spillover effects between exchange rates and stock prices: Evidence from BRICS around the recent global financial crisis. *Research in International Business and Finance, 36*, 459-471.

Swamy, P. A. (1970). Efficient inference in a random coefficient regression model. *Econometrica: Journal of the Econometric Society*, 311-323.

Tohmo, T. (2018). The economic impact of tourism in Central Finland: a regional input–output study. *Tourism Review*.

UNWTO. (2019). the United Nations World Tourism Organization. Retrieved from http://www2.unwto.org/en.

van Aarle, B., & Kappler, M. (2012). Economic sentiment shocks and fluctuations in economic activity in the euro area and the USA. *Intereconomics*, *47*(1), 44-51.

Van Aarle, B., & Moons, C. (2017). Sentiment and uncertainty fluctuations and their effects on the Euro area business cycle. *Journal of Business Cycle Research*, 13(2), 225-251.

Verma, R., Baklaci, H., & Soydemir, G. (2008). The impact of rational and irrational sentiments of individual and institutional investors on DJIA and S&P500 index returns. *Applied Financial Economics*, *18*(16), 1303-1317.

Wasserfallen, W. (1989). Macroeconomics news and the stock market: Evidence from Europe. *Journal of Banking & Finance*, *13*(4-5), 613-626.

Westerlund, J. (2007). Testing for error correction in panel data. *Oxford Bulletin of Economics and statistics*, *69*(6), 709-748.

Wong, K. K., & Song, H. (2006). Do macroeconomic variables contain any useful information for predicting changes in hospitality stock indices?. *Journal of Hospitality & Tourism Research*, *30*(1), 16-33.

World Tourism Organization. (2016). European Union Tourism Trends. https://www.e-unwto.org/doi/book/10.18111/9789284419470

World Travel and Tourism Council. (2018). Travel and tourism economic impact 2018 world.https://www.wttc.org/-/media/files/reports/economic-impact...2018/world2018.pdf.

WTO (2019), the World Trade Organization. Retrieved from https://www.wto.org/.

WTTC (2019), World Travel & Tourism Council. Retrieved from https://www.wttc.org/.

Yap, G., & Allen, D. (2011). Investigating other leading indicators influencing Australian domestic tourism demand. *Mathematics and Computers in Simulation*, *81*(7), 1365-1374.

APPENDIX

Descriptive Statistic and Correlation Matrix among Variables

Descriptive statistics and correlation matrix among variables in France

	$\Delta T\&lSR$	$\Delta M2$	ΔIP	ΔEXR	$\Delta DEPU$	$\Delta DESI$	ΔCPI	ΔMR	$\Delta EUEPU$	$\Delta EUESI$	ΔOIL
Panel A: descriptive statistics											
Mean	0.169	0.507	0.121	-0.034	0.129	0.537	-0.035	-0.022	8.802	0.006	3.709
Median	0.430	0.318	0.121	-0.099	0.149	1.297	0.838	0.140	1.290	0.103	-0.213
Maximum	19.324	4.424	1.0125	3.901	6.389	25.645	16.599	6.362	242.752	6.010	191.779
Minimum	-33.662	-4.229	-1.000	-4.975	-7.502	-41.87	-22.08	-10.88	-66.17	-8.513	-55.432
Std. Dev.	7.176	1.254	0.317	1.458	2.296	10.523	5.902	2.153	46.174	1.860	28.598
Skewness	-0.692	0.501	-0.27	-0.151	-0.096	-0.742	-0.839	-0.814	1.936	-0.734	2.098
Kurtosis	5.263	4.708	3.545	3.535	3.509	4.293	5.293	4.045	4.274	6.37	4.428
Observations	212	212	212	212	212	212	212	212	212	212	212
Panel B: correlation matrix											
$\Delta T\&lSR$	1										
$\Delta M2$	0.046	1									
ΔIP	0.090	0.025	1								
ΔEXR	0.006	0.043	0.094	1							
$\Delta DEPU$	-0.284	-0.080	-0.004	-0.043	1						
$\Delta DESI$	0.246	-0.026	0.087	0.143	-0.076	1					
ΔCPI	-0.085	0.145	0.030	0.096	0.040	0.019	1				
ΔMR	0.317	0.017	0.154	0.098	-0.175	0.422	0.102	1			
$\Delta EUEPU$	-0.374	-0.078	0.000	-0.068	0.442	-0.145	0.006	-0.252	1		
$\Delta EUESI$	0.344	0.015	0.206	0.121	-0.038	0.452	0.050	0.421	-0.104	1	
ΔOIL	-0.080	-0.050	-0.010	0.255	0.003	0.211	0.365	0.179	0.038	0.261	1

Descriptive statistics and correlation matrix among variables in Germany

	$\Delta T\&lSR$	$\Delta M2$	ΔIP	ΔEXR	$\Delta DEPU$	$\Delta DESI$	ΔCPI	ΔMR	$\Delta EUEPU$	$\Delta EUESI$	ΔOIL
Panel A: descriptive statistics											
Mean	-0.267	0.400	0.128	0.133	0.129	0.537	0.277	0.019	8.802	0.006	3.709
Median	0.967	0.406	0.112	0.202	0.149	1.297	0.980	0.193	-0.213	0.103	-0.213
Maximum	40.536	2.480	1.177	4.593	6.389	25.645	19.373	6.092	107.082	5.836	191.779
Minimum	-32.828	-4.786	-1.201	-8.219	-7.502	-41.87	-29.332	-7.317	-80.82	-8.897	-55.432
Std. Dev.	10.336	0.621	0.411	1.623	2.296	10.523	6.113	1.931	24.845	1.875	28.598
Skewness	-0.041	-2.52	-0.073	-0.636	-0.096	-0.742	-0.988	-0.501	0.444	-0.873	2.098
Kurtosis	5.000	3.084	3.454	5.719	3.509	4.293	6.365	4.792	4.802	6.765	12.428
Observations	212	212	212	212	212	212	212	212	212	212	212
Panel B: correlation matrix											
$\Delta T\&lSR$	1										
$\Delta M2$	0.046	1									
ΔIP	0.090	0.025	1								
ΔEXR	0.033	-0.167	0.088	1							
$\Delta DEPU$	-0.242	0.191	0.033	-0.072	1						
$\Delta DESI$	0.234	-0.210	0.262	0.102	-0.039	1					
ΔCPI	0.010	-0.106	0.027	0.051	-0.195	0.030	1				
ΔMR	0.692	-0.142	0.080	0.017	-0.308	0.225	0.050	1			
$\Delta EUEPU$	-0.274	0.192	0.036	-0.068	0.401	-0.059	-0.181	-0.337	1		
$\Delta EUESI$	0.334	-0.296	0.274	-0.078	-0.079	0.391	0.033	0.343	-0.103	1	
ΔOIL	-0.047	-0.021	0.171	0.255	0.039	0.267	0.346	-0.031	0.038	0.263	1

Descriptive statistics and correlation matrix among variables in the UK

	$\Delta T\&lSR$	$\Delta M2$	ΔIP	ΔEXR	$\Delta DEPU$	$\Delta DESI$	ΔCPI	ΔMR	$\Delta EUEPU$	$\Delta EUESI$	ΔOIL
Panel A: descriptive statistics											
Mean	0.552	0.504	0.182	0.013	-0.074	0.042	5.490	-2.147	8.802	0.006	3.709
Median	1.329	0.499	0.234	0.145	-0.127	0.000	1.868	-2.022	1.290	0.103	-0.213
Maximum	14.42	1.791	0.999	4.230	13.075	11.387	114.440	11.454	242.752	6.010	191.779
Minimum	-21.552	-2.811	-0.874	-5.698	-16.67	-7.738	-59.83	-18.514	-66.17	-8.513	-55.432
Std. Dev.	5.064	0.427	0.343	1.033	4.078	3.056	32.025	4.821	46.174	1.860	28.598
Skewness	-0.997	-2.411	-0.728	-0.759	-0.562	0.380	0.758	-0.533	1.936	-0.734	2.098
Kurtosis	5.371	21.518	3.766	8.511	4.845	3.828	3.658	4.023	4.274	6.37	4.428
Observations	212	212	212	212	212	212	212	212	212	212	212
Panel B: correlation matrix											
$\Delta T\&lSR$	1										
$\Delta M2$	0.200	1									
ΔIP	-0.022	-0.114	1								
ΔEXR	0.004	0.000	0.044	1							
$\Delta DEPU$	-0.381	-0.0112	-0.012	-0.077	1						
$\Delta DESI$	0.279	0.109	-0.051	0.142	-0.066	1					
ΔCPI	0.084	-0.088	-0.011	0.058	-0.071	0.052	1				
ΔMR	0.724	0.110	-0.087	0.051	-0.244	0.350	0.114	1			
$\Delta EUEPU$	-0.403	-0.061	-0.044	-0.086	0.341	-0.033	-0.105	-0.252	1		
$\Delta EUESI$	0.377	0.026	0.018	0.245	-0.135	0.311	0.045	0.378	-0.215	1	
ΔOIL	-0.054	-0.036	-0.116	0.270	0.038	0.121	0.217	-0.010	0.037	0.190	1

Descriptive statistics and correlation matrix among variables in Spain

	$\Delta T\&lSR$	$\Delta M2$	ΔIP	ΔEXR	$\Delta DEPU$	$\Delta DESI$	ΔCPI	ΔMR	$\Delta EUEPU$	$\Delta EUESI$	ΔOIL
Panel A: descriptive statistics											
Mean	-0.07	0.531	0.182	-0.08	0.129	-0.039	0.001	-0.014	8.802	0.006	3.709
Median	0.421	0.434	0.234	0.058	0.149	0.000	-0.011	1.010	1.290	0.103	-0.213
Maximum	23.366	4.153	0.999	2.552	6.389	6.298	1.705	16.904	242.752	6.010	191.779
Minimum	-34.63	-3.283	-0.874	-8.875	-7.503	-7.52	-1.089	-18.893	-66.17	-8.513	-55.432
Std. Dev.	8.529	1.254	0.343	1.113	2.296	1.906	0.434	6.225	46.174	1.860	28.598
Skewness	-0.695	0.266	-0.728	-2.663	-0.096	-0.374	0.374	-0.471	1.936	-0.734	2.098
Kurtosis	4.657	3.168	3.766	20.445	3.509	4.351	3.578	3.701	4.274	6.37	4.428
Observations	212	212	212	212	212	212	212	212	212	212	212
Panel B: correlation matrix											
$\Delta T\&lSR$	1										
$\Delta M2$	0.047	1									
ΔIP	0.111	0.017	1								
ΔEXR	0.113	-0.015	0.118	1							
$\Delta DEPU$	-0.033	0.056	0.055	-0.088	1						
$\Delta DESI$	0.116	-0.051	0.232	0.067	-0.031	1					
ΔCPI	0.168	0.154	0.053	0.020	-0.094	0.014	1				
ΔMR	0.557	0.005	0.043	0.138	-0.097	0.138	0.069	1			
$\Delta EUEPU$	-0.06	0.187	-0.046	-0.068	0.665	-0.054	-0.105	-0.128	1		
$\Delta EUESI$	0.367	-0.044	0.388	0.121	-0.002	0.538	0.047	0.393	-0.104	1	
ΔOIL	0.208	-0.061	0.150	0.255	0.068	0.133	0.228	0.224	0.038	0.261	1

Original Research

SAGE Open
July-September 2021: 1–13

DOI: 10.1177/21582440211040120
journals.sagepub.com/home/sgo
SAGE

Effects of Business and Finance Conditions on Tourism Firms' Financial Performances: Evidence From Major Tourist Destinations

Farid Irani[1], Salih Katircioglu[1], and Korhan K. Gokmenoglu[1]

Abstract

This study examines the effects of business and finance conditions on the stock performances of firms operating in the tourism, hospitality, and leisure industries. This research employs panel-based first- and second-generation estimators, such as Westerlund cointegration, dynamic ordinary least squares (DOLS), and Dumitrescu–Hurlin panel Granger causality tests, to explore long-term links between business conditions, financial development, and tourism growth in major tourist destination countries selected in this study. To our knowledge, this is the first study to attempt to explore this linkage. The long-run estimation underscores that business and finance environments are significant drivers of stock price movements in this industry. Therefore, any shock in business and finance activities will have long-term effects on tourism firms' stock prices. Moreover, the results show that the most significant factor that explains changes in the tourism stock price is foreign tourist arrivals, indicating that the tourism stock price of major tourist countries is relatively more sensitive to changes in tourist arrivals to the country than other factors. This study proposes a new research question to estimate the effects of the business, financial conditions, and tourism growth on the stock performance of the tourism, hospitality, and leisure industries. Therefore, the results are likely to become vital for policymakers, managers, and asset pricing analysts.

Keywords

business conditions, financial markets, financial performance, stock price, tourism

Introduction

Researchers have extensively studied the financial or business performance of firms. In the relevant literature, stock price movements are proxies for forecasting financial performance likely to be affected by the business environment and countries' macroeconomic trends (M. H. Chen, 2005, 2007b, 2010; M. H. Chen et al., 2005; Hadi et al., 2019; S. Katircioglu et al., 2018). As M. H. Chen (2007b) mentioned, firms' stock prices need to reflect their real-market values and actual financial performance, as per the efficient market's theory. Therefore, close connections between firms' stock movements and business conditions (BCs), and macroeconomic developments should be expected. Recent studies have shown that a positively high correlation exists between BCs and the financial performance of firms (M. H. Chen, 2007b; Jeon et al., 2004; Shaeri & Katircioğlu, 2018).

However, underlying stock valuation states that the stock price reflects all investors' expectations about a firm's future earnings. Stock price variations related to BCs change in terms of their impact on firms' earnings and dividends (Asprem, 1989; Booth & Booth, 1997; Campbell, 1987; N. F. Chen, 1991; N. F. Chen et al., 1986; Fama & French, 1988; Jensen et al., 1996; Wasserfallen, 1989). A growing number of studies have shown that stock prices systematically respond to changes in macroeconomic conditions. Wasserfallen (1989) shows that increased economic activity increases a company's expected future cash flow. Asprem (1989) shows that real economic activity (industrial production, gross domestic product [GDP], and exports) positively affects stock price changes in European countries. Fama (1981) finds a negative association between stock returns

[1]Eastern Mediterranean University, Famagusta, Turkey

Corresponding Author:
Salih Katircioglu, Professor of Economics Department of Banking and Finance, Eastern Mediterranean University, P.O. Box 99628, Famagusta, Northern Cyprus, Via Mersin 10, Turkey.
Email: salihk@emu.edu.tr

Impact of economic sentiment and economic policy uncertainty on travel and leisure stock return

Abobaker Al.Al. Hadood
Department of Banking and Finance, University of Zawia, Zawia, Libya, and
Farid Irani
Department of Banking and Finance, Eastern Mediterranean University, Famagusta, Turkey

Received 7 May 2020
Revised 7 July 2020
18 July 2020
24 July 2020
Accepted 25 July 2020

Abstract

Purpose – This paper considers the role of economic sentiment and economic policy uncertainty (both domestic and European) in explaining the changes in the contemporaneous and future travel and leisure stock index returns in top European Union (EU) tourism destinations, namely, in France, Germany, Spain and the UK.

Design/methodology/approach – The authors conducted the ordinary least square (OLS) regression estimations to investigate the impact of changes in economic sentiment and economic policy uncertainty on travel and leisure stock returns. Furthermore, the authors used predictive regressions to determine whether economic sentiment and economic policy uncertainty are useful predictors over the short- or medium-term for travel and leisure stock returns.

Findings – Empirical results revealed that, in France and Spain, the changes in regional economic sentiments predominantly and positively affected travel and leisure stock index returns. Also, results indicated that changes in European economic sentiment have a strong positive effect on the future travel and leisure stock returns in Spain and the UK over the short run, while in France, changes in European economic policy uncertainty have a weak negative effect on the future travel and leisure stock returns over the medium-term.

Research limitations/implications – This paper provides valuable practical implications for investors who trade travel and leisure stocks. Traders can use economic sentiment and economic policy uncertainty to establish arbitrageur strategies.

Originality/value – This study is the first to examine the effects of economic sentiment and economic policy uncertainty (both domestic and European) on contemporaneous and future travel and leisure stock returns in a top European tourism destination.

Keywords Economic sentiment, Economic policy uncertainty, Hospitality industry, Macroeconomic variables, Stock returns

Paper type Research paper

1. Introduction

Keynes connected sentiment to a state of long-term expectation and confidence about economic conditions and emphasised the critical role of changes in these expectations in explaining economic fluctuations (Keynes, 1936). In particular, economic sentiment is formed by the perceptions of consumers and producers about the economy's long-term development (Van Aarle and Moons, 2017). Also, economic policy uncertainty captures the sentiment related to consumers' and businesses' concerns about future economic conditions (Dragouni *et al.*, 2016). Based on these concepts, the demand for goods and services, particularly for tourism, is affected by economic sentiment and economic policy uncertainty as they are considered a signal of future economic conditions (Kim *et al.*, 2012; Dragouni *et al.*, 2016; Yap and Allen, 2011). Consequently, contemporaneous travel and leisure are more likely to be affected by economic sentiment and economic policy uncertainty.

In addition, future travel and leisure stock returns tend to be influenced by economic condition signals. To be more specific, the behavioural approach indicates that times of irrational sentiment (overly high or low economic sentiment and economic policy uncertainty)

Journal of Hospitality and Tourism Insights

2514-9792
DOI 10.1108/JHTI-05-2020-0070