International Tourism, Foreign Monetary Policy, and Macroeconomic Growth: Evidence from Panel Data Analyses

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ABSTRACT

This study proposes a new research question that monetary policy changes by important central banks which are actors of the global financial system impact international tourist flows across continents through major macroeconomic mechanisms. As a first study, quarterly data is used to test the validity of this research question by considering the effects of the Federal Reserve (FED)'s monetary policy changes on the regional aggregate tourist flows around the World. Results of the first study confirm the long-term significant effects of the FED's monetary policy actions on international tourist flows across continents. However, these effects are mixed in the directions (signs as positive or negative). This study proposes that the FED's monetary policy changes indirectly impact tourist flows through changing exchange rates and therefore international prices, foreign direct investments in tourism sectors, and the mediation of financial system like domestic credits by the banking sector. Therefore, a second study is conducted to investigate the causal relations between tourism markets, FDIs, domestic credits, and real income growth in the case of the Mediterranean countries. Results reveal that long-term links and causal relations exist among the above-said variables. Furthermore, the tourism-led growth hypothesis is confirmed for the Mediterranean countries. Importantly, this study also finds that tourism is a significant driver for FDI and financial markets in these countries as well. These major results of this study provide important policy lessons for policymakers.

Keywords: Tourism; Tourist Flows; Monetary Policy; Financial Markets; Foregin direct investment; Federal Reserve; Mediterranean.

ÖZ

Bu çalışma uluslararası para piyasalarının aktörü durumunda olan önemli merkez bankaları para politikası değişikliklerinin, makroekonomik faktörler aracılığı ile uluslararası turist akışına olan etkisini inceleyen ve sahada yeni olan bir araştırma konusu önermektedir. İlk ampirik uygulamada FED para politikası değişikliklerinin dünya genelinde bölgesel tourist akışlarına olan etkisi çeyrek veri seti kullanılarak tahmin edilmiştir. Sonuçlar, FED para politikalarının kıtalararası turist akışlarına uzun dönemde anlamlı etki ettiğini göstermektedir. Fakat, bu etkilerin yönü (eksi veya artı) bölgeden bölgeye değişmektedir. Çalışma, FED para politikalarının turist akışlarına dolaylı etkilerinin döviz kurları, uluslararası fiyatlar, yabancı direkt yatırımlar, ve finansal piyasalar aracılığı ile gerçekleştiğini ortaya koymaktadır. Bu sebeble, bulguları desteklemek amacıyla ikinci ampirik bir çalışma daha yapılmıştır. İkinci çalışmada, Akdeniz ülkelerinde turist piyasaları, yabancı direkt yatırımlar, yurtiçi krediler ve reel gelir büyümesi arasındaki ilişkiler irdelenmiştir. Sonuçlar, bu değişkenler arasında uzun dönemli bir denge ve sebeb/sonuç ilişkilerin olduğunu göstermektedir. Ayrıca, çalışmada Akdeniz ülkeleri için turizm'e dayalı büyüme hipotezi desteklenmiştir. Önemli bir bulgu ise turizm sektörünün yabancı direkt yatırımlar ile finansal piyasalarının tetikleyicisi olduğu yönündedir. Bu çalışmada ortaya çıkan tüm bu temel bulgular politika üreticiler için önemli mesajlar içermektedir.

Anahtar Kelimeler: Turizm; Turist Akışı; Para Politikası; Finansal Piyasalar; Yabancı Direkt Yatırım; FED; Akdeniz.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ARDL	Autoregressive Distributed Lag
CADF	Cross-sectionally Augmented Dickey-Fuller
CIPS	Cross-sectional Augmented Im, Pesaran and Shin
CSD	Cross-Sectional Dependency
ECB	European Central Bank
ECT	Error Correction Term
FDI	Foreign Direct Investment
FED	Federal Reserve
HNC	Homogenous Non-stationary Hypothesis
LM	Lagrange Multiplier
PCT	Panel Cointegration Test
PURT	Panel Unit Root Test
TLGH	Tourism-led Growth
UNCTAD	United Nations Conference on Trade and Development
UNWTO	United Nation's World Tourism Organization
US	United States
VECM	Vector Error Correction Model

Chapter 1

INTRODUCTION

1.1 Growth Theories

The sources of growth are well-theorized in the economic theory and literature which led to the emergence of different thoughts in economics' history. Economists agree that natural factors, human factors, physical capital, and institutional factors are the core sources of growth in an economy. Sources of growth can be characterized by two growth theories: (1) The classical growth theory, (2) the neoclassical growth theory (the endogenous and the exogenous growth theories).

The neoclassical growth theory introduced both the endogenous and the exogenous growth theories, which is pioneered by Solow & Swan (1956). The neoclassical growth theory introduced by Solow & Swan (1956) states that capital, labor, and technology are sources of growth. In 1956, Robert Solow and Trevor Swan introduced the neoclassical growth theory and modeled economic growth as a result of factor accumulation and in the medium-run and as a result of technological progress in the long-run, which is known as the "Solow-Swan" model (Loayza & Soto, 2002). Furthermore, the neoclassical growth theory by Solow & Swan (1956) assumes that the contribution from technology to growth is boundless because an economy has limited resources in terms of capital and labor.

The endogenous growth theory, on the other hand, argues that economic growth occurs as a direct result of internal processes. This argument means that the enhancement of a nation's human capital leads to economic growth utilizing the

development of new forms of technology and efficient and effective means of production (Liberto, 2019; Fethi et al., 2015; Katircioglu et al., 2004). And, the exogenous growth theory, which is a key tenet of neoclassical economic theory, suggests that economic growth is fostered by technological progress which is independent of economic forces (Ganti, 2019; Fethi et al., 2013).

However, Romer (1986), another pioneer in the endogenous growth theory, alternatively argues that economic growth, in the long run, occurs not because of exogenous technological progress, but because of the accumulation of capital which through generating externalities that compensate for diminishing returns. On the other hand, Lucas (1988), another pioneer of the new classical growth theory, presents that human capital has a major role in achieving economic growth and preventing diminishing returns to physical capital accumulation.

1.2 Service Industries as Sources of Growth

In parallel to the theoretical frameworks drawn in the economics literature as also summarized above, many studies attempt to investigate the sources of economic growth in the countries. It is well-established that major sectors of the economies lead to real income growth which is mainly the industrial sector, manufacturing sector, and services industries. However, the role of these industries varies from one country to another depending on the nature of their economies and geographical locations.

Since Patrick (1966), who proposed the finance-led growth hypothesis, a growing number of studies investigated the role of finance and tourism (service) industries in the economic growth of countries. Patrick (1966) proposes that financial development is the engine of growth. Many studies attempted to test this hypothesis; some of them confirm the finance-led (supply-leading) growth hypothesis while some others confirm the reverse which is the demand-following (output-driven) hypothesis.

A common outcome from previous studies is that financial services provide significant effects on economic activity.

In addition to financial markets, the role of the tourism industry (another services industry) has attracted significant attention from researchers since the study of Balaguer & Cantavella-Jorda (2002) as well which confirms the validity of the tourism-led growth hypothesis (TLGH). Among the later studies confirming the validity of the TLGH for various countries are Gunduz-Hatemi-J (2005), and Dristakis (2004). However, for example, in the case of Turkey as a top tourist destination in the World, Katircioglu (2009) rejected the validity of the TLGH unlike Gunduz & Hatemi-J (2005). Thus, methodological approaches provide mixed findings on investigating the sources of growth in the countries and this debate continues in the relevant literature.

1.3 Interactions Between Financial and Tourism Industries

As finance and tourism industries have significant effects on the economies and provide funds, these two sectors are closely linked to each other as well. However, no study before Ohlan (2017) has focused on this link although it is a well-known interaction. Ohlan (2017) finds a significant link between tourism and financial sectors in India and tourism significantly affects the growth of the Indian economy through the moderating role of financial markets. Then, Katircioglu et al. (2018) extended the study of Ohlan (2017) for the case of Turkey and find that there is a bidirectional long-term link between tourism and financial markets and foreign direct investments (FDI) and foreign trade activity moderates and affects this relationship.

The finding of Katircioglu et al. (2018) is parallel to the expectations. That is, firstly, tourism comes to the country mainly as financed by financial markets and by FDI. Thus, a better financial environment is likely to result in better tourism

investments and tourist attraction policies. Secondly, as tourism grows in a country, foreign exchange inflows because of tourism will be injected into financial markets as well. Thus, such happening will raise money supply and financial investments in both financial and stock markets. The studies of Ohlan (2017) and Katircioglu et al. (2018), with this respect, are only two ones at this debate till the date to the best of our knowledge and still deserves attention.

1.4 Aim of the Study

As mentioned previously, the links and the nature of the relationship between financial markets and the tourism industry still deserves attention from researchers following the studies of Ohlan (2017) and Katircioglu et al. (2018). This study, therefore, opens a new discussion for the first time in the relevant literature to the best of our knowledge using two empirical chapters:

Firstly, this study proposes that the integration of financial markets as a result of globalization and internet technologies is likely to impact the other sectors simultaneously; and the tourism industry is only one of them. We argue that since the United States is the actor of global financial markets, any decision or policy action of the Federal Reserve (FED) will simultaneously affect the financial markets globally and as a result of changes in financial and economic aggregates such as exchange rates, inflation, growth prospects, and investment climate in the other countries, international tourist choices will be influenced simultaneously due to international price conditions and costs of their travels that they are likely to visit the other countries for business, leisure, and cultural purposes among the others. This study, therefore, simply argues that monetary policy changes in the FED will impact international tourist flows significantly through the fundamentals of socio-economic changes. Therefore, the first

research hypothesis of this thesis in the first empirical chapter can be proposed as the following:

H1: The FED's monetary policy significantly impact international tourist flows around the World

Therefore, this hypothesis will be tested in the first empirical chapter using global data for international tourist flows and monetary policy of the FED.

Secondly, as previously mentioned, links between tourism and financial markets are new debates in the relevant literature. Tourism comes to countries as financed by financial markets and FDI. And these interactions between tourism, FDI, and financial markets will result in significant changes in the real income levels of countries. Therefore, the second research hypothesis of this thesis can be proposed as the following:

H2: Interactions between tourism, FDI, and financial markets result in significant changes in real income

The second hypothesis mentioned above will be tested in the second empirical chapter of this thesis. For this purpose, the Mediterranean countries are selected since they are favorite tourist destinations, and results reached from this sample will be generalized for the other destinations.

1.5 Structure of the Study

This study is structured as follows: Following Introduction, chapter 2 covers the first empirical study which will be used to test the validity of the first research hypothesis in this thesis; chapter 3 covers the second empirical chapter which will be used to test the validity of the second research hypothesis; and chapter 4 finalizes the study by conclusions, policy implications, research limitations, and further research suggestions.

Chapter 2

THE ROLE OF FED'S MONETARY POLICY IN CONTINENTAL TOURIST FLOWS

2.1 Introduction

International tourism is one of the leading service industries and economic activities, which is denoted as the "engine of growth in many nations. That is, many previous works showed that tourism creates a significant value-added in many economies while in some others it does not. The role of tourism in economies is generally investigated by the tourism-led growth hypothesis (TLGH) where tourism volume is a significant driver of the real income of countries. Balaguer & Cantavella-Jorda (2002) is one of the earliest studies testing this hypothesis for Spain which they find a significant effect of tourism on real income. However, results on the TLGH may vary across types of data and methodological approaches. For example, while Gunduz & Hatemi-J (2005) confirm the validity of the TLGH for the case of Turkey, which ranks 6th according to UNWTO (2020), Katircioglu (2009) rejects it for Turkey using a different approach.

No matter what results are obtained on the nature of the TLGH, it is widely accepted and found that not only the purpose of visitors (such as business visits, cultural visits, or leisure visits) international prices are significant drivers of tourist flows to countries but also international prices are among core determinants of tourist flows. Therefore, the exchange rate is accepted as the main proxy for international price competitiveness among countries. The volatility of exchange rates, especially

between developed and developing countries is likely to be effective in tourist decisions regarding their choice of tourist markets for visiting (Katircioglu, 2009; Balaguer & Cantavella-Jorda, 2002).

Price competitiveness and exchange rates are considered very important for affecting tourism and growth via tourism in many previous studies. As international prices and exchange rates are parts of financial markets, it is evident that tourism would be also in strong interaction with financial markets. This interaction is not only via prices and exchange rates but also via providing foreign exchange inflows to economies. As a result of foreign exchange earnings, financial markets will benefit well from these earnings which in turn will stimulate growth in the countries. To the best of our knowledge, very rare studies until the moment considered the nexus between tourism and financial markets. Ohlan (2017) studied the relationship between tourism and economic growth but through the channel of the financial system in India and found that tourism exerts long-term effects on the financial system and therefore macroeconomy. Furthermore, Katircioglu et al. (2018) worked on the links between tourism and the financial system in Turkey, which is a top tourist destination, and found a feedback relationship. Their findings reveal that tourism activity in Turkey is driven by financial markets where in return foreign exchange inflows by international tourism precede significant changes in the volume of financial activity.

On the other hand, several rare studies focused on the links between the financial system and stock returns in the tourism industry. For example, the results of Chen (2007) reveal that there are significant links between the Taiwanese hotel stock returns and monetary policy changes; that is, Taiwanese hotel stocks show higher mean returns and reward-to-risk ratio during expansionary monetary policies and even

the link between hotel stock returns and macroeconomic aggregates behave differently during different monetary regimes.

Furthermore, Najjar (2014) studies the links between tourism corporate governance, tourism growth, and tourism firm's financial performance in Middle East countries and finds that corporate governance in tourism firms is significantly linked to a firm's financial and stock performance and the link between these two enables tourism-led growth. The findings of Najjar (2014) support the earlier findings of Chen (2010) for the case of the Taiwanese tourism and hotel industry. Although the debate between tourism and financial markets is a well-known issue, it is rarely searched in the relevant literature. Furthermore, the link between monetary policy, macroeconomic variations owing to monetary policy tools, and therefore, tourism volume and tourist flows deserves attention from researchers.

As a result of global integration of international financial markets, monetary policy decisions and actions of important central banks such as the Federal Reserve (FED) in the United States and the European Central Bank (ECB) leads to significant changes in macroeconomic aggregates of not only monetary policy hosted countries but also of the other countries. For example, as an actor of the global financial system, decisions, and/or policy actions of the FED exert sudden effects on the financial markets and macroeconomic aggregates of the other countries. Therefore, here in this new study, it is strongly argued that policy changes in central banks such as the ones in the FED or ECB are likely to impact not only the other financial markets but also macro economies including tourism activity. For example, any policy change of the FED is likely to leads to changes in exchange rates and parities; thus, tourist decisions to visit the other countries might change significantly simultaneously. To the best of

our knowledge, there isn't any research study for such a new nexus in the relevant literature to the moment.

Against this backdrop, this study investigates the role of the FED monetary policy changes in global tourist flows via macroeconomic changes. Global continental tourist flows are selected with this respect. This study argues that policy changes of the FED as an actor of the global financial system are likely to impact tourist decisions and therefore tourist flows through changes in macroeconomic prospects, exchange rates, and international prices. Therefore, this new debate is tested using global data from World Development Indicators of the World Bank (2020).

2.2 Trends in the Global Tourism

The tourism industry continues to grow considerably and contribute to the nations' economies. The worldwide tourist arrivals in 2019 were about 1.44 billion visitors (World Bank, 2021) of which 54.88 percent are arrivals to the OECD countries, 49.42 percent to Europe & Central Asia, 36.03 percent to the European Union, 28.71 percent to Euro area, and 22.21 percent to East Asia & Pacific among the others. Regional tourism and major economic statistics are presented in Table 1 for only 2018 while Figures 1 and 2 plot US interest rates and international tourist arrivals to these regions and worldwide respectively during 1995-2018.

Table 1: Major Tourism and economic statistics-2018

Region	Tourist Arrivals	World Share in Tourist Arrivals (%)	Tourism Receipts	Trade (% of GDP)	FDI (% of GDP)
Arab	101,46	7.04	107954,00	86,31	1,25
Caribbean	7,35	0.51	11963,00	-	3,71
Central Europe and the Baltics	100,11	6.94	65546,00	126,87	-1,44
East Asia & Pacific	320,27	22.21	417699,00	57,47	2,32
Euro Area	413,96	28.71	416234,00	88,37	-0,26
Europe & Central Asia	712,59	49.42	651746,00	84,45	-0,52
Europen Union	519,57	36.03	494299,00	91,00	-0,42
Latin America & Caribbean	113,35	7.86	103820,00	47,32	3,69
Middle East & North Africa	110,56	7.67	121535,00	82,28	1,72
North America	101,16	7.02	278706,00	31,06	1,38
OECD Members	791,28	54.88	1028760,00	58,23	0,77
Other Small States	42,78	2.97	-	111,75	3,06
Pacific Island Small States	1,39	0.10	2223,23	101,50	5,78
Small States	51,17	3.55	-	109,61	3,21
South Asia	26,70	1.85	39895,00	42,20	1,41
Sub-Saharan Africa	-	-	35667,10	53,45	1,87
World	1441,95	-	1649260,00	59,47	1,32

Source: World Bank Indicators-2021

On the other hand, Figure 1 shows that interest rates in the USA are generally downturn over the years revealing that expansionary monetary policy is generally adopted in the US markets. Furthermore, Table 1 shows that generally developing

areas receive a higher volume of FDI than developed areas. Even, net FDI inflows in developed areas such as Europe were negative revealing that these countries send FDI to others more than they receive. This shows that tourism investments are likely to benefit from FDI in developing areas more than developed areas.

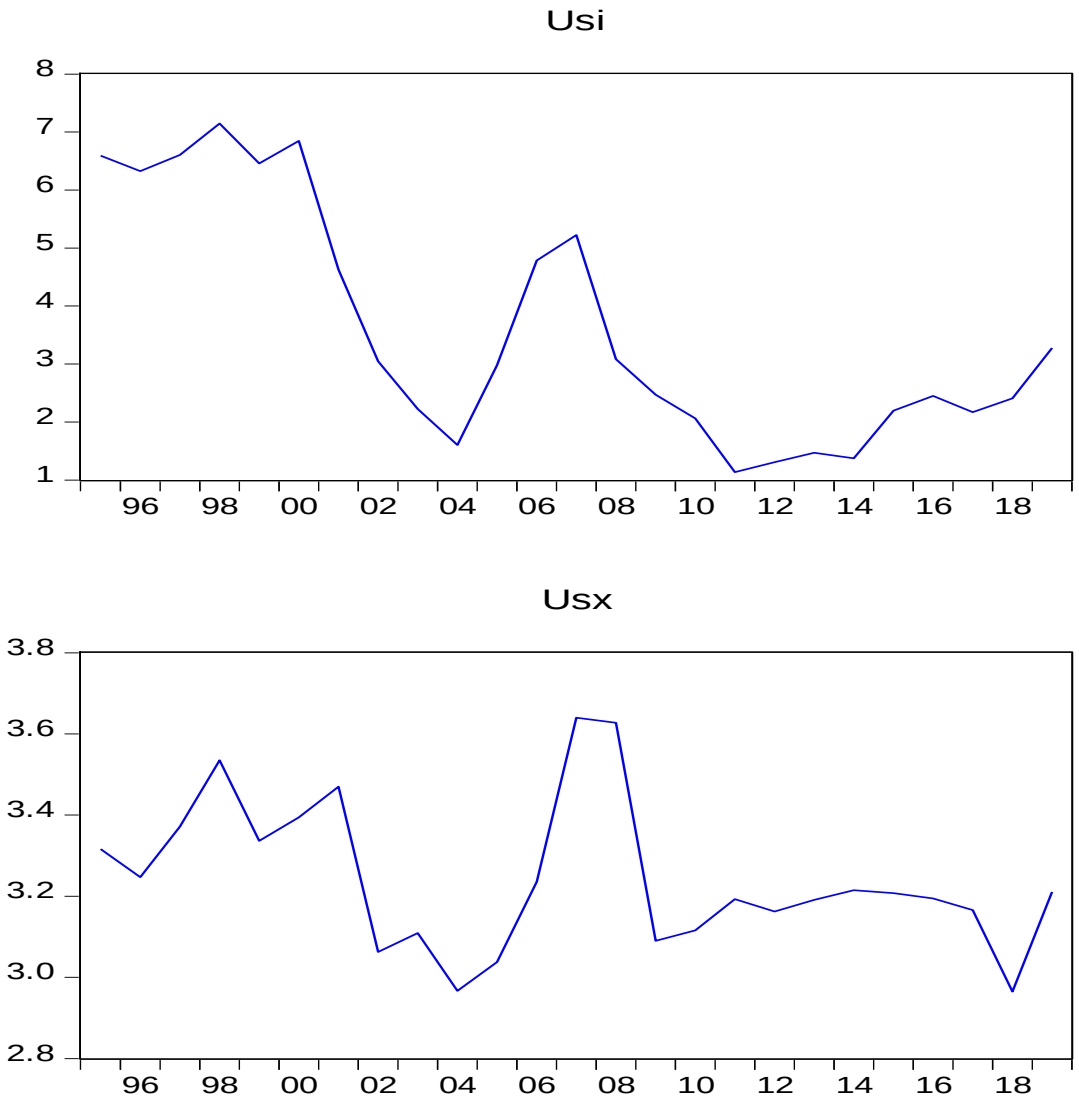

Figure 1: US interest rate and risk primum 1995-2018- (Source:World Bank, 2021)

Figure 2 shows that tourism and tourist arrivals around the World grow rapidly over the years at increasing rates although some cycles owing to external/internal shocks exist.

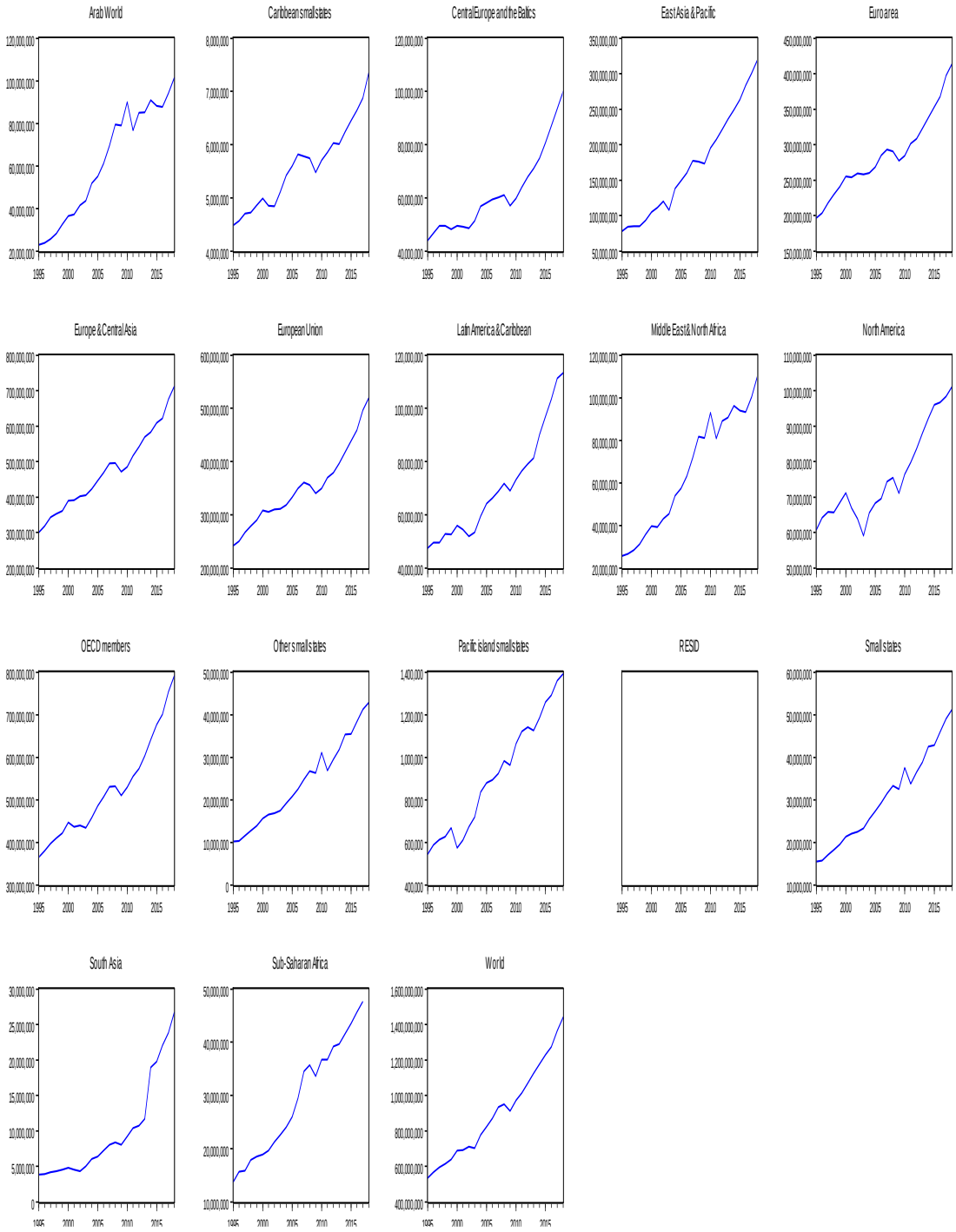

Figure 2: Tourism arrival for all regions-1995-2018- (Source: World Bank, 2018)

Finally, Table 2 presents the top 10 tourist countries which are visited as of 2019. France ranks 1st with 89 million visitors while Spain comes second, and the US comes third. It is important to note that although Turkey ranks 6th around the World, it has achieved the highest growth rate in tourist arrivals with 11.9 percent in 2019 as compared to 2018. Tourist arrivals to Turkey has also grown by 21.7 percent during 2017-2018. This reality shows that there is an increasing volume of tourists who wish to visit countries with historical and natural beauties and ancient cultural monuments.

Table 2: Top 10 tourist countries in the world

Rank	Destination	International tourist arrivals-2019	International tourist arrivals-2018	Change 2018-2019
1	France	-	89.4	-
2	Spain	83.5	82.8	0.8
3	US	79.3	79.7	0.6
4	China	65.7	62.9	4.5
5	Italy	64.5	61.6	4.8
6	Turkey	51.2	45.8	11.9
7	Mexico	45.0	41.3	9.0
8	Thiland	39.8	38.2	4.3
9	Germany	39.6	38.9	1.8
10	UK	39.4	38.7	1.9

Source: World Tourism Organization-2021

2.3 Theoretical Setting

This study proposes that monetary policies of foreign central banks exert statistically significant effects on international tourist flows through the channels of financial markets and macroeconomic fundamentals which affect tourist decisions or choices. Therefore, the following functional form can be constructed:

$$TA_t = f(K_t, L_t, DCP_t, T_t, FDI_t, CPI_t, USi_t, USx_t) \quad (1)$$

Where TA is tourist arrivals to the country at period t, K is capital stock of the country, L is labor force, DCP is proxy for financial markets volume, T is trade

openness, FDI is foreign direct investment, CPI is a consumer price index, US_x and US_i are proxies for monetary policy of foreign central banks.

As a result of changes in foreign monetary policy, it is assumed that domestic macroeconomic fundamentals such as financial markets, the capital stock of the country, the labor force of the country, trade volume, domestic inflation levels, and foreign direct investments do also change. Therefore, this study proposes that there will be significant changes in the volume of tourist markets as a result of such macroeconomic fundamentals, business conditions, and tourist choices because of price advantages/disadvantages.

Equation (1) can be reorganized in double logarithmic regression form to capture growth effects of regressors on regressand as the following:

$$lnT_t = \beta_0 + \beta_1(lnK_t) + \beta_2(lnL_t) + \beta_3(lnDCP_t) + \beta_4(lnT_t) + \beta_5(lnFDI_t) + \beta_6(lnCPI_t) + \beta_7(lnUSi_t) + \beta_8(lnUSx_t) + \varepsilon_t \quad (2)$$

Where the term "ln" stands for the natural logarithmic form of series and "ε" is error disturbance.

2.4 Data and Methodology

2.4.1 Data Definition and Sources

This study constructs time series data to estimate the long-run coefficients in equation (2). All the data are obtained from World Bank (2020) Development Indicators which are provided in annual figures from 1960 to the date. The main limitation of tourism figures in the World Bank (2020) is that data sets are available from 1995 and onwards. Therefore, to gain more observations, time-series data are transformed into quarterly figures using EVIEWS statistical software and quadratic functions. Therefore, the data set in this study is quarterly figures from 1995:Q1 to 2017:Q4.

The dependent variable in equation (2) is the number of international tourist arrivals (TA) to the domestic country while as regressors, (1) K is the gross capital formation (% of GDP) in the domestic country, (3) L is labor force in domestic country, (4) DCP is Proxy for domestic financial markets, (5) T is trade openness (% of GDP) in the domestic country, (6) FDI is foreign direct investment net inflows (% of GDP) to domestic country, (7) CPI is domestic consumer price index (USD, 2010 = 100), USi and USx are Proxies for foreign monetary policy.

The regressor, DCP, in equation (2) is proxied by domestic credits (DC) provided by the banking sector (% of GDP) and broad money (M2), (% of GDP) in parallel to the extensive literature studies (Beck et al., 2002; Jenkins & Katircioglu, 2010). On the other hand, USi and USx in equation (2) stand for foreign monetary policy tools which in this study they are policy tools of the FED in the USA. Two proxies are used for the foreign monetary policy variable in the study: (1) real interest rates (%) in the US and (2) interest rate spread in the US (lending rate minus deposit rate, %). Samples used in this study are continental regions around the World for the variables of TA, K, L, DCP, T, FDI, CPI, USi, and USx which are presented in Table 1.

2.5 Methodology

This study adapts time series analysis to estimate equation (2) as mentioned earlier. In the first stage, Phillips-Perron (PP) (1988) unit root tests are employed to observe the stationary nature of series in equation (2). Then after, as a next step, the autoregressive distributed lag (ARDL) approach of Pesaran et al. (2001) is used in this study for empirical analysis expecting that series in equation (2) except dependent variable would be mixed orders of integration.

To investigate if there exists cointegration (long-run equilibrium relationship) in equation (2) bounds F-tests are adapted under four different scenarios of Pesaran et al. (2001) which are (1) Case II: Model estimation with a restricted constant, (2) Case III: Model estimation with an unrestricted constant, (3) Case IV: Model estimation with a restricted trend, and (4) Case V: Model estimation with an unrestricted constant and an unrestricted trend. Employing these scenarios simultaneously would enable researchers for robustness checks of results (Katircioglu, 2010).

Table 3: Descriptive Statistics for Regional Aggregates

Region		K	L	DCP	T	FDI	CPI	USi	USx
Arab									
	Average	21.55102	1.02E+08	39.16132	81.98680	2.028722	91.75004	3.184783	108.9490
	Min	16.62177	72212806	26.45466	60.46308	-0.259876	69.03494	0.242188	94.62281
	Max	27.02663	1.35E+08	58.22582	98.63688	5.129487	113.5044	7.023437	127.2473
	Std.Dev.	2.701985	19721287	8.190025	11.55735	1.492386	13.63631	1.789522	8.945091
Caribbean									
	Average	-	2969648.	40.06785	-	4.696473	91.75004	3.184783	108.9490
	Min	-	2579360.	35.55874	-	0.526763	69.03494	0.242188	94.62281
	Max	-	3408658.	48.46269	-	9.639243	113.5044	7.023437	127.2473
	Std.Dev.	-	253652.3	2.683237	-	1.865302	13.63631	1.789522	8.945091
Central Europe and the Baltics									
	Average	23.13932	49759541	38.16913	97.88781	4.603892	91.75004	3.184783	108.9490
	Min	27.78587	52269642	53.40891	128.7020	12.39338	113.5044	7.023437	127.2473
	Max	20.05526	48835254	19.51570	67.30681	-3.790305	69.03494	0.242188	94.62281
	Std.Dev.	1.763123	948206.8	11.35604	18.88167	2.878888	13.63631	1.789522	8.945091
East Asia & Pacific									
	Average	30.78513	1.17E+09	145.2685	57.02280	2.114840	91.75004	3.184783	108.9490
	Min	28.63549	1.03E+09	123.5851	44.68987	0.981624	69.03494	0.242188	94.62281
	Max	32.53379	1.26E+09	174.4242	70.17535	3.292940	113.5044	7.023437	127.2473
	Std.Dev.	1.096140	67688504	14.23653	7.673376	0.665977	13.63631	1.789522	8.945091
Euro Area									
	Average	21.39099	1.55E+08	95.35036	72.63772	4.067869	91.75004	3.184783	108.9490
	Min	19.45220	1.42E+08	87.70057	55.33957	0.901348	69.03494	0.242188	94.62281
	Max	23.26936	1.65E+08	106.2358	88.71387	10.42033	113.5044	7.023437	127.2473
	Std.Dev.	1.081195	7458525.	6.292606	9.571695	2.201059	13.63631	1.789522	8.945091
Europe & Central Asia									
	Average	21.11590	4.11E+08	100.9372	71.01722	3.918008	91.75004	3.184783	108.9490
	Min	19.95297	3.87E+08	91.06533	56.57513	1.148342	69.03494	0.242188	94.62281
	Max	23.01890	4.39E+08	114.5314	84.26785	9.059664	113.5044	7.023437	127.2473
	Std.Dev.	0.732613	17056983	7.846351	7.916848	1.966478	13.63631	1.789522	8.945091

Table 3: Descriptive Statistics for Regional Aggregates (Continued)

Region	K	L	DCP	T	FDI	CPI	USi	USx
Europen Union								
Average	20.85611	2.37E+08	103.2772	71.75452	4.125612	91.75004	3.184783	108.9490
Min	19.17429	2.23E+08	92.51601	55.64364	1.171541	69.03494	0.242188	94.62281
Max	22.73667	2.50E+08	117.3171	87.28266	9.807126	113.5044	7.023437	127.2473
Std.Dev.	0.967947	8839345.	8.313982	9.211027	2.163372	13.63631	1.789522	8.945091
Latin America & Caribbean								
Average	19.35476	2.56E+08	34.92982	41.69474	3.169396	91.75004	3.184783	108.9490
Min	17.32643	1.99E+08	23.15623	33.48333	1.518356	69.03494	0.242188	94.62281
Max	20.96251	3.12E+08	50.42594	47.73989	4.591331	113.5044	7.023437	127.2473
Std.Dev.	1.075258	34094739	9.674777	4.146718	0.595620	13.63631	1.789522	8.945091
Middle East & North Africa								
Average	22.93387	1.15E+08	43.43799	75.78873	2.241957	91.75004	3.184783	108.9490
Min	19.94586	80350348	30.15758	57.35249	0.055038	69.03494	0.242188	94.62281
Max	25.83377	1.50E+08	61.83953	90.08271	6.278458	113.5044	7.023437	127.2473
Std.Dev.	1.516712	21746113	7.976614	10.10974	1.634563	13.63631	1.789522	8.945091
North America								
Average	21.11425	1.70E+08	175.0861	29.84458	1.904969	91.75004	3.184783	108.9490
Min	18.50423	1.51E+08	124.7559	26.54192	0.675351	69.03494	0.242188	94.62281
Max	22.92022	1.85E+08	201.3621	34.04735	3.960615	113.5044	7.023437	127.2473
Std.Dev.	1.183294	9286228.	20.38595	2.347213	0.776900	13.63631	1.789522	8.945091
OECD Members								
Average	21.95449	5.83E+08	142.4346	49.80301	2.554746	91.75004	3.184783	108.9490
Min	20.23077	5.25E+08	132.7614	39.67821	0.888797	69.03494	0.242188	94.62281
Max	23.37068	6.43E+08	157.3225	58.43974	5.545289	113.5044	7.023437	127.2473
Std.Dev.	0.944848	33992003	5.730192	5.892484	1.112665	13.63631	1.789522	8.945091
Other Small States								
Average	-	9948296.	56.47231	109.9806	7.417355	91.75004	3.184783	108.9490
Min	-	7191889.	29.47508	101.2429	-1.038540	69.03494	0.242188	94.62281
Max	-	13818159	76.54407	124.5060	24.41516	113.5044	7.023437	127.2473
Std.Dev.	-	2103971.	14.89021	5.829982	6.244439	13.63631	1.789522	8.945091

Table 3: Descriptive Statistics for Regional Aggregates (Continued)

Region		K	L	DCP	T	FDI	CPI	USi	USx
Pacific Island Small States									
	Average	19.53518	709627.3	51.13052	108.7371	5.187084	91.75004	3.184783	108.9490
	Min	14.75399	569393.2	26.00931	77.24246	-1.214914	69.03494	0.242188	94.62281
	Max	25.71148	848904.4	72.82831	117.4756	11.83089	113.5044	7.023437	127.2473
	Std.Dev.	2.685637	88905.66	16.13990	6.735780	3.117889	13.63631	1.789522	8.945091
Small States									
	Average	-	13627572	53.39464	108.3475	6.898955	91.75004	3.184783	108.9490
	Min	-	10340642	32.11735	99.60912	-0.533515	69.03494	0.242188	94.62281
	Max	-	18075723	71.12485	120.8953	20.71646	113.5044	7.023437	127.2473
	Std.Dev.	-	2443914.	12.51821	5.266444	5.108964	13.63631	1.789522	8.945091
South Asia									
	Average	27.69972	5.71E+08	36.65037	38.82875	1.343202	91.75004	3.184783	108.9490
	Min	23.40610	4.51E+08	22.56748	25.46664	0.502967	69.03494	0.242188	94.62281
	Max	33.07573	6.86E+08	47.30490	54.19180	3.428865	113.5044	7.023437	127.2473
	Std.Dev.	3.149244	65208575	9.602523	9.653506	0.702871	13.63631	1.789522	8.945091
Sub-Saharan Africa									
	Average	21.52824	3.06E+08	51.29920	57.77817	2.374967	91.75004	3.184783	108.9490
	Min	20.02398	2.21E+08	39.53587	46.44611	1.135316	69.03494	0.242188	94.62281
	Max	23.51311	4.13E+08	59.15122	69.00082	4.309672	113.5044	7.023437	127.2473
	Std.Dev.	0.788664	54926630	5.063432	5.707020	0.664240	13.63631	1.789522	8.945091

In cases, cointegration relationships are obtained for equation (2), then, the long-run plus the short-run coefficients of equation (2) and error correction terms (ECTs) are estimated again using the ARDL mechanism under four different model scenarios mentioned above.

2.6 Results

Table 4 presents Phillips-Perron (1988) unit root tests for series under consideration. Results show that regressors are composed of mixed orders of integration while some are order zero, I (0), while some others are order one, I (1), across regions. Importantly, the dependent variable, lnTA, are always integrated of order one, I (1), in all of the regions. Since regressors are of mixed order of integration, the ARDL approach is adapted to estimate equation (1) of this study.

Before the estimation of long-run models, bounds tests for level relationships are carried out and presented in Table 5. It is observed that bounds F-statistics are strongly significant and the null hypothesis of a level relationship is rejected for all of the regions; therefore, there is strong evidence that equation (1) of this study is a cointegration model and long-run coefficients in the equation can be estimated as a next step. This finding reveals that tourists there is a long-run and significant link between tourist arrivals to regions and domestic and US financial factors which are listed as regressors in equation (1). Bounds t-test results in Table 3 reveal that trend restrictions for those with significant t-ratios would be applicable (see Pesaran et al., 2001).

Table 4: Phillips-Perron (1988) Unit Root Test Results

Country	lnK		lnL		lnDCP		lnT		lnFDI		lnCPI		lnUSi		lnUSx	
	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.
Arab																
PP_T	-2.499	-4.305***	-0.185	-3.193*	-2.460	-4.039**	-0.932	-4.685***	-2.797	-6.766***	-2.460	-4.039**	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.322	-4.359***	-1.132	-3.021**	-1.060	-4.097***	-1.590	-4.558***	-3.236**	-6.745***	-1.060	-4.097***	-2.184	-5.501***	-1.587	-4.046***
PP_N	0.174	-4.380***	17.160	-0.623	1.403	-3.944***	1.266	-4.365***	-2.650***	-6.799***	1.403	-3.944***	-1.606	-5.525***	0.475	-4.052***
Caribbean																
PP_T	-	-	-2.133	-3.154	-2.332	-5.600***	-	-	-2.396	-4.286***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041***
PP_C	-	-	0.312	-3.209**	-1.618	-5.596***	-	-	-2.129	-4.306***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-	-	16.365	-1.063	0.704	5.587***	-	-	-0.880	-4.331***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
Central Europe and the Baltics																
PP_T	-2.631	-3.996**	-1.116	-4.769***	-1.567	-3.224*	-2.671	-5.166***	-2.836	-4.131***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041***
PP_C	-1.946	-4.031***	-2.754*	-4.143***	-0.892	-3.248**	-1.041	-5.178***	-2.677	-4.135***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-0.035	-4.053***	-1.030	-4.163***	0.721	-3.209***	2.694	-4.631***	-1.488	-4.149***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
East Asia & Pacific																
PP_T	-2.012	-4.107***	-3.669**	-3.963**	-0.921	-4.228***	-1.359	-5.136***	-1.972	-5.346***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.369	-4.096***	-11.887***	-2.725*	-1.518	-4.197***	-1.716	-5.110***	-2.075	-5.262***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	0.012	-4.120***	7.887	-2.253**	-0.420	-4.221***	0.746	-5.075***	-0.267	-5.246***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
Euro Area																
PP_T	-1.948	-3.758**	-0.181	-4.093***	-0.521	-2.821	-2.834	-5.253***	-2.199	-5.243***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.277	-3.766***	-2.405	-3.485**	-0.970	-2.068*	-1.208	-5.277***	-2.374	-5.217***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-0.335	-3.781***	5.889	-1.907*	-0.069	-2.087**	1.803	-5.037***	-0.519	-5.222***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
Europe & Central Asia																
PP_T	-2.104	-4.104***	-2.814	-4.399***	-0.420	-3.211*	-2.797	-5.265***	-2.001	-4.255***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.872	-4.132***	0.393	-4.411***	-1.031	-2.289	-1.182	-5.291***	-2.327	-4.191***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-0.042	-4.154***	6.030	-2.548**	-0.046	-2.311**	1.734	-5.064***	-0.758	-4.141***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
European Union																
PP_T	-2.126	-3.889**	-1.160	-4.135***	-0.608	-1.913	-2.859	-5.272***	-2.062	-4.295***	-0.936	-4.158***	-2.519	-5.49***	-1.812	-4.041**
PP_C	-1.472	-3.919***	-0.640	-4.124***	-1.188	-1.281	-1.127	-5.298***	-2.357	-4.173***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-0.195	-3.938***	6.940	-1.856*	0.122	-1.294	1.885	-4.962***	-0.792	-4.206***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
Latin America & Caribbean																
PP_T	-1.379	-4.637***	-0.312	-5.404***	-2.538	-4.283***	-1.595	-5.430***	-3.154	-5.200***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.564	-4.582***	-2.838*	-4.665***	0.013	-4.119***	-2.053	-5.355***	-3.548***	-5.032***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-0.449	-4.608***	14.675	-0.961	0.952	-4.000***	1.106	-5.302***	-0.023	-5.046***	8.685	-1.673*	-1.606	-5.525***	0.478	-4.052***
The Middle East & North Africa																
PP_T	-1.984	-4.433***	1.335	-4.338***	-2.442	-3.770**	-0.917	-4.501***	-4.109***	-8.444***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.962	-4.435***	-2.92**	-3.324**	-0.980	-3.851***	-1.547	-4.369***	-4.854***	-8.537***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-0.022	-4.464***	14.838	-0.784	1.519	-3.664***	1.201	-4.197***	-3.013***	-8.657***	8.685	-1.673*	-1.606	-5.525***	0.478	-4.052***

*Note: (i) PP_T stands for Phillips-Perron test statistic from the model with trend and intercept PP_C with intercept, and PP_N with no trend and no intercept. (ii) *, *, and *** denotes statistical significance at 0.01, 0.05, and 0.10 level respectively.*

Table 4: Phillips-Perron (1988) Unit Root Test Results (Continued)

Country	lnK		lnL		lnDCP		lnT		lnFDI		lnCPI		lnUSi		lnUSx	
	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.
North America																
PP_T	-2.208	-3.570**	-2.267	-3.512**	-2.271	-5.596***	-2.610	-5.392***	-2.765	-5.102***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.741	-3.606***	-2.930**	-3.025**	-2.731	-5.466***	-2.076	-5.415***	-2.977**	-5.037***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	0.083	-3.625***	7.715	-1.280	1.827*	-5.255***	0.478	-5.421***	-1.464	-5.073***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
OECD Members																
PP_T	-2.270	-3.819**	-2.014	-4.027**	-2.461	-4.103***	-2.836	-5.339***	-2.158	-4.274***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.526	-3.862***	-1.022	-3.953***	-2.478	-4.118***	-1.352	-5.364***	-2.506	-4.105***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-0.195	-3.879***	15.951	-0.871	0.343	-4.118***	1.567	-5.191***	-0.931	-4.137***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
Other Small States																
PP_T	-	-	-2.876	-1.687	-1.453	-5.150***	-2.035	-3.995**	-4.991***	-7.386***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-	-	1.622	-2.162	-1.334	-5.135***	-2.014	-4.005***	-5.135***	-7.475***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-	-	13.604	0.0321	1.465	-4.895***	-0.185	-4.026***	-1.497	-7.598***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
Pacific Island Small States																
PP_T	-2.262	-3.032	-0.530	-2.221	-1.499	-4.087***	0.880	-4167***	-5.888***	-5.762***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.371	-2.396	-1.244	-2.119	-0.622	-4.110***	1.110	-3.819**	-5.573***	-6.108***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	0.091	-2.433**	10.120	-0.685	1.621	-3.852***	-1.065	-3.717***	-1.561	-6.248***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
Small States																
PP_T	-	-	-2.910	-1.533	-1.448	-4.939***	-2.147	-4.422***	-2.918	-4.843***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-	-	1.674	-2.027	-1.162	-4.863***	-2.129	-4.249***	-2.987**	-4.826***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-	-	14.790	0.023	1.623	4.675***	-0.271	-4.270***	-0.832	-4.888***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
South Asia																
PP_T	-1.011	-4.578***	-1.644	-2.190	0.587	-4.975***	-0.444	-4.830***	-1.744	-5.061***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-1.219	-4.561***	-2.101	-2.156	-1.673	-4.704***	-1.298	-4.738***	-1.697	-5.040***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	0.379	-4.562***	8.817	-0.744	3.020	-4.105***	0.922	-4.662***	-1.492	-5.060***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***
Sub-Saharan Africa																
PP_T	-2.635	-5.284***	0.232	-3.110	-2.659	-5.533***	-1.593	-5.280***	-2.298	-6.389***	-0.936	-4.158***	-2.519	-5.479***	-1.812	-4.041**
PP_C	-2.311	-5.292***	1.418	-2.806*	-2.294	-5.568***	-1.943	-5.202***	-2.620	-6.302***	-1.825	-4.024***	-2.184	-5.501***	-1.587	-4.046***
PP_N	-0.452	-5.304***	56.913	0.303	-0.665	-5.581***	0.027	-5.230***	-0.924	-6.335***	8.685	-1.673*	-1.606	-5.525***	0.475	-4.052***

*Note: (i) PP_T stands for Phillips-Perron test statistic from the model with trend and intercept PP_C with intercept, and PP_N with no trend and no intercept. (ii) *, *, and *** denotes statistical significance at 0.01, 0.05, and 0.10 levels respectively.*

Following bounds test results Table 3 presents long-run coefficients of regressors in equation (1) and diagnostic test results as well. Results in Table 3 can be summarized in two separate categories:

Firstly, results on the effects of domestic forces in each region on tourist arrivals such as capital formation, labor, domestic credit provided by the banking sector, and trade openness exhibit mixed findings depending on the nature of their economies. However, results on domestic factors can be outlined in two groups: (1) In some regions such as Central Europe & the Baltics and Europe & Central Asia, the coefficients of domestic capital and labor are positively significant while the coefficients of FDI are negatively significant. This reveals that in such regions tourism grows by domestic investments and tourism growth is capital/labor-intensive rather than being FDI-intensive. (2) In the second group of regions such as South Asia and OECD states, the coefficients of FDI is positively significant while the coefficients of capital formation and labor are negatively significant revealing that tourism growth in such regions is FDI-intensive rather than being domestic capital/labor-intensive.

Secondly, results on the effects of US monetary policy tools on regional tourist flows generally provides consistency among different regions; that is, the coefficients of US interest rates and US risk Premium rates are positively significant in some regions such as the Middle East & North Africa and North America. This major finding reveals that a change in the US monetary policy would lead to changes in tourist arrivals to the other regions in the same direction as expected. For example, an increase in the US interest rates and/or risk premiums other things being equal would lead to appreciation in the US dollar and depreciation of the other currencies; therefore, this would increase the number of tourists visiting the related nations as a result of international price advantages. On the other hand, the coefficients of the US interest

rates and risk Premium rates are negatively significant especially in the developed areas such as the European Union, which should not be surprising since both the US and European financial markets are well-integrated and a great majority of tourist sending countries to Europe are from the Third World. Results from ECTs reveal that convergence of tourist arrivals towards long-term paths is not high but at moderate levels and is negatively significant as expected.

Finally, the results of diagnostic tests in Table 3 show that model estimations do not suffer from autocorrelation and serial correlation problems; therefore, the overall results in the table are robust as far as econometric issues are concerned.

Table 5: ARDL (Long Term Coefficients and Error Correction Terms)

	Arab				Caribbean			
	Case II	Case III	Case IV	Case V	Case II	Case III	Case IV	Case V
Dep.var.: lnTA								
Intercept	4.341	-	-	-	-5.388***	-	-	-
Trend	-	-	-0.008***	-	-	-	0.0005	-
lnK	2.160***	2.160***	1.954***	1.954***	-	-	-	-
lnL	-0.422*	-0.422***	0.895	0.895	-1.659	-1.659	-1.818	-1.818
lnDCP	-2.127***	-2.127***	-1.985***	-1.985***	-0.197***	-0.197***	-0.191***	-0.191***
lnT	0.527***	0.527***	0.581***	0.581***	-	-	-	-
lnFDI	-0.022***	-0.022***	-0.018**	-0.018**	0.376	0.376	0.522	0.522
lnCPI	0.524*	0.524*	0.683**	0.683**	-0.010**	-0.010**	-0.010**	-0.010**
lnUSi	0.080***	0.080***	0.075***	0.075***	0.006**	0.006**	0.006*	0.006*
lnUSx	1.202***	1.202***	1.288***	1.288***	-0.129*	-0.129*	-0.128*	-0.128*
Lag Structure	3,1,0,1,0,4,0,1,1	3,1,0,1,0,4,0,1,1	4,1,0,1,0,4,0,1,1	4,1,0,1,0,4,0,1,1	2,2,2,1,1,2,1	2,2,2,1,1,2,1	3,2,3,1,1,2,1	3,2,3,1,1,2,1
Bounds F-Stat.	18.361***	14.642***	14.713***	13.956***	4.293***	4.702***	4.464***	5.101***
Bounds t-Stat.	-	-6.408***	-	-6.068***	-	-3.387	-	-3.316
Adj. R-Square	0.999	0.999	0.999	0.999	0.998	0.998	0.998	0.998
ECT_{t-1}	-0.211***	-0.211***	-0.323***	-0.323***	-0.126***	-0.126***	-0.149***	-0.149***
F-stat.	-	26.144***	26.882***	24.474***	-	22.338***	19.871***	18.205***
Durbin Watson	1.776	1.776	1.651	1.651	2.271	2.271	2.127	2.127
$\chi 2$ (Ser. Corr.)	1.872	1.872	4.897	4.897	4.726	4.726	2.286	2.286

Note: ***, ** and * denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively

Table 5: ARDL (Long Term Coefficients and Error Correction Terms) (Continued)

	Central Europe and the Baltics				**East Asia & pacific**			
	Case II	Case III	Case IV	Case V	Case II	Case III	Case IV	Case V
Dep.var.: lnTA								
Intercept	-11.891***	-	-	-	-1.129	-	-	-
Trend	-	-	-0.002***	-	-	-	0.006	-
lnK	0.170***	0.170***	0.182***	0.182***	-1.901***	-1.901***	-2.055***	-2.055***
lnL	0.847***	0.847***	1.191***	1.191***	36.537***	36.537***	37.013***	37.013***
lnDCP	0.117***	0.117***	0.149***	0.149***	-1.758***	-1.758***	-2.025***	-2.025***
lnT	0.653***	0.653***	0.673***	0.673***	0.554***	0.554***	0.640***	0.640***
lnFDI	-0.003	-0.003	-0.003**	-0.003**	-0.022	-0.022	-0.015	-0.015
lnCPI	-0.552*	-0.552*	-0.393	-0.393	-8.619***	-8.619***	-11.224***	-11.224***
lnUSi	0.004	0.004	0.007**	0.007**	0.054***	0.054***	0.067***	0.067***
lnUSx	-0.083***	-0.083***	-0.031	-0.031	0.346**	0.346**	0.106	0.106
Lag Structure	4,4,0,1,2,4,3,4,0	4,4,0,1,2,4,3,4,0	4,4,0,1,2,4,4,4,0	4,4,0,1,2,4,4,4,0	4,1,2,4,4,0,2,2,1	4,1,2,4,4,0,2,2,1	2,1,2,4,4,0,1,1,4	2,1,2,4,4,0,1,1,4
Bounds F-Stat.	7.751***	8.452***	10.332***	10.730***	7.218***	7.394***	14.146***	12.453***
Bounds t-Stat.	-	-5.738***	-	-6.593***	-	-2.090	-	-1.343
Adj. R-Square	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999
ECT_{t-1}	-0.155***	-0.155***	-0.168***	-0.168***	-0.191***	-0.191***	-0.081***	-0.081***
F-stat.	-	73.840***	86.548***	81.625***	-	30.140***	32.420***	30.346***
Durbin Watson	1.975	1.975	2.085	2.085	2.151	2.151	1.916	1.916
$\chi 2$ (Ser. Corr.)	0.021	0.021	7.710	7.710	5.101	5.101	2.025	2.025

Note: ***, **, and * denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively.

Table 5: ARDL (Long Term Coefficients and Error Correction Terms) (Continued)

	Euro area				Europe & Central Asia			
	Case II	Case III	Case IV	Case V	Case II	Case III	Case IV	Case V
Dep.var.: lnTA								
Intercept	30.435***	-	-	-	-77.865***	-	-	-
Trend	-	-	0.014***	-	-	-	0.036***	-
lnK	-0.221**	-0.221**	0.403**	0.403**	0.649**	0.649**	0.603**	0.603**
lnL	-4.630***	-4.630***	0.402	0.402	13.352***	13.352***	3.776	3.776
lnDCP	0.765***	0.765***	0.194	0.194	0.007	0.007	-0.021	-0.021
lnT	0.472***	0.472***	0.626***	0.626***	0.251***	0.251***	0.533***	0.533***
lnFDI	0.001	0.001	-0.019***	-0.019***	-0.051***	-0.051***	-0.012	-0.012
lnCPI	0.129	0.129	-3.477***	-3.477***	-0.990*	-0.990*	-4.542***	-4.542***
lnUSi	0.008***	0.008***	0.017***	0.017***	0.014***	0.014***	0.001	0.001
lnUSx	0.008	0.008	-0.403***	-0.403***	-0.073	-0.073	-0.518***	-0.518***
Lag Structure	4,4,4,4,1,3,4,4,4	4,4,4,4,1,3,4,4,4	4,4,2,2,4,4,4,4,4	4,4,2,2,4,4,4,4,4	4,4,4,4,4,1,4,4,4	4,4,4,4,4,1,4,4,4	4,4,4,3,4,2,4,4	4,4,4,3,4,2,4,4
Bounds F-Stat.	25.404***	28.194***	10.541***	11.05***	16.903***	16.182***	9.968***	9.721***
Bounds t-Stat.	-	-3.340	-	-4.923*	-	-9.359***	-	-6.267***
Adj. R-Square	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999
ECT_{t-1}	0.257***	0.257***	-0.570***	-0.570***	-1.486***	-1.486***	-0.691***	-0.691***
F-stat.	-	113.940***	54.441***	51.191***	-	51.294***	6.631***	7.027***
Durbin Watson	1.982	1.982	1.986	1.986	1.841	1.841	2.052	2.052
$\chi 2$ (Ser. Corr.)	19.466	19.466	13.977	13.977	17.226	17.226	3.000	3.000

Note: ***, **, and * denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively.

Table 5: ARDL (Long Term Coefficients and Error Correction Terms) (Continued)

	European union				**Latin America & Caribbean**			
	Case II	Case III	Case IV	Case V	Case II	Case III	Case IV	Case V
Dep.var.: lnTA								
Intercept	-52.498***	-	-	-	-2.022	-	-	-
Trend	-	-	-0.022***	-	-	-		-
lnK	0.023	0.023	-0.930***	-0.930***	0.415***	0.415***	0.473***	0.473***
lnL	0.534	0.534	-3.782***	-3.782***	0.154	0.154	-0.100	-0.100
lnDCP	-0.035	-0.035	0.913***	0.913***	-0.370***	-0.370***	-0.374***	-0.374***
lnT	0.337***	0.337***	0.307***	0.307***	0.033	0.033	0.040	0.040
lnFDI	-0.010***	-0.010***	-0.017***	-0.017***	0.002	0.002	-0.002	-0.002
lnCPI	0.683**	0.683**	5.283***	5.283***	1.896***	1.896***	1.759***	1.759***
lnUSi	0.006***	0.006***	-0.005***	-0.005***	0.011**	0.011**	0.011**	0.011**
lnUSx	0.140**	0.140**	0.766***	0.766***	-0.002	-0.002	-0.016	-0.016
Lag Structure	2,4,4,4,4,4,4,4,4	2,4,4,4,4,4,4,4,4	4,4,4,4,4,3,4,4,4	4,4,4,4,4,3,4,4,4	2,2,0,2,0,0,2,2,0	2,2,0,2,0,0,2,2,0	2,2,0,2,0,0,2,2,0	2,2,0,2,0,0,2,2,0
Bounds F-Stat.	22.966***	25.174***	112.066***	124.510***	1.390	1.264	1.334	1.001
Bounds t-Stat.	-	-7.149***	-	-7.730***	-	-1.358	-	-1.370
Adj. R-Square	0.999	0.999	0.999	0.999	0.999	0.999	0.009	0.009
ECT_{t-1}	-0.949***	-0.949***	-0.620***	-0.620***	-0.030***	-0.030***	-0.030***	-0.030***
F-stat.	-	180.196***	878.618***	823.704***	-	36.469***	37.631***	33.777***
Durbin Watson	1.868	1.868	2.139	2.139	2.186	2.186	2.188	2.188
$\chi 2$ (Ser. Corr.)	15.278	15.278	28.676	28.676	2.014	2.014	2.089	2.089

Note: ***, **, and * denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively.

Table 5: ARDL (Long Term Coefficients and Error Correction Terms) (Continued)

	Middle East & North Africa				North America			
	Case II	Case III	Case IV	Case V	Case II	Case III	Case IV	Case V
Dep.var.: lnTA								
Intercept	-24.927***	-	-	-	74.912***	-	-	-
Trend	-	-	0.0003	-	-	-	0.016***	-
lnK	2.147***	2.147***	2.153***	2.153***	0.236	0.236	-0.411	-0.411
lnL	-1.923	-1.923	-1.929	-1.929	3.976***	3.976***	-2.812**	-2.812**
lnDCP	-2.344***	-2.344***	-2.353***	-2.353***	-0.122***	-0.122***	-0.044	-0.044
lnT	1.129***	1.129***	1.134***	1.134***	0.278**	0.278**	0.586***	0.586***
lnFDI	0.045**	0.045**	0.045*	0.045*	0.043***	0.043***	0.021*	0.021*
lnCPI	-4.534***	-4.534***	-4.551***	-4.551***	-0.133	-0.133	-1.677**	-1.677**
lnUSi	0.070***	0.070***	0.070***	0.070***	0.015***	0.015***	0.012**	0.012**
lnUSx	1.407***	1.407***	1.409***	1.409***	0.417***	0.417***	0.480***	0.480***
Lag Structure	2,4,1,2,2,2,3,2,1	2,4,1,2,2,2,3,2,1	2,4,1,2,2,2,3,2,1	2,4,1,2,2,2,3,2,1	2,4,0,0,4,4,4,0,1	2,4,0,0,4,4,4,0,1	4,4,4,0,4,4,4,4,1	4,4,4,0,4,4,4,4,1
Bounds F-Stat.	4.313***	4.608***	4.080***	3.931**	7.119***	7.621***	11.680***	12.493***
Bounds t-Stat.	-	-4.300	-	-3.896	-	-6.929***	-	-9.280***
Adj. R-Square	0.999	0.999	0.998	0.998	0.997	0.997	0.998	0.998
ECT_{t-1}	-0.237***	-0.237***	-0.234***	-0.234***	-0.419***	-0.419***	-1.072***	-1.072***
F-stat.	-	15.371***	15.376***	14.392***	-	20.684***	24.575***	23.316***
Durbin Watson	2.136	2.136	2.135	2.135	2.112	2.112	1.777	1.777
$\chi 2$ (Ser. Corr.)	1.164	1.164	1.160	1.160	1.512	1.512	10.533	10.533

Note: ***, **, and * denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively.

Table 5: ARDL (Long Term Coefficients and Error Correction Terms) (Continued)

	OECD members				Other small states			
	Case II	Case III	Case IV	Case V	Case II	Case III	Case IV	Case V
Dep.var.: lnTA								
Intercept	-1.436	-	-	-	-0.107	-	-	-
Trend	-	-	0.008***	-	-	-	0.003	-
lnK	-0.343*	-0.343*	-0.213	-0.213	-	-	-	-
lnL	0.050	0.050	-2.567***	-2.567***	0.201**	0.201**	-0.060	-0.060
lnDCP	0.028	0.028	0.137**	0.137**	-0.080**	-0.080**	-0.086***	-0.086***
lnT	0.279***	0.279***	0.284***	0.284***	0.354*	0.354*	0.332	0.332
lnFDI	0.035***	0.035***	0.024***	0.024***	0.033***	0.033***	0.032***	0.032***
lnCPI	0.849**	0.849**	0.779***	0.779***	0.120	0.120	-0.263	-0.263
lnUSi	0.003	0.003	0.013***	0.013***	0.023***	0.023***	0.022**	0.022**
lnUSx	0.017	0.017	-0.089*	-0.089*	-0.484***	-0.484***	-0.546***	-0.546***
Lag Structure	2,2,0,0,2,2,1,1,0	2,2,0,0,2,2,1,1,0	4,4,4,4,1,4,0,4,2	4,4,4,4,1,4,0,4,2	4,0,0,1,2,1,4,1	4,0,0,1,2,1,4,1	4,0,0,1,2,1,4,1	4,0,0,1,2,1,4,1
Bounds F-Stat.	2.454	1.924	14.225***	12.720***	14.095***	15.825***	14.240***	16.008***
Bounds t-Stat.	-	0.056	-	-0.062	-	-9.389***	-	-9.366***
Adj. R-Square	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999
ECT_{t-1}	0.001***	0.001***	-0.003***	-0.003***	-0.670***	-0.670***	-0.690***	-0.690***
F-stat.	-	61.991***	13.363***	15.173***	-	22.990***	23.559***	21.545***
Durbin Watson	2.141	2.141	1.698	1.698	1.804	1.804	1.858	1.858
$\chi 2$ (Ser. Corr.)	3.826	3.826	12.531	12.531	3.926	3.926	4.339	4.339

Note: ***, **, and * denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively.

Table 5: ARDL (Long Term Coefficients and Error Correction Terms) (Continued)

	Pacific Island small states				Small states			
	Case II	Case III	Case IV	Case V	Case II	Case III	Case IV	Case V
Dep.var.: lnTA								
Intercept	-1.543	-	-	-	-2.523*	-	-	-
Trend	-	-	0.010***	-	-	-	0.006**	-
lnK	-	-	-	-	-	-	-	-
lnL	-5.159***	-5.159***	-3.383	-3.383	4.714	4.714	-0.020	-0.020
lnDCP	-0.428***	-0.428***	-0.191	-0.191	-0.191***	-0.191***	-0.241***	-0.241***
lnT	0.281***	0.281***	0.261***	0.261***	0.174	0.174	-0.036	-0.036
lnFDI	-0.020***	-0.020***	-0.011	-0.011	0.030***	0.030***	0.031***	0.031***
lnCPI	0.208	0.208	-0.956	-0.956	1.003***	1.003***	0.819***	0.819***
lnUSi	-0.014	-0.014	-0.025***	-0.025***	0.016**	0.016**	0.002	0.002
lnUSx	0.067	0.067	-0.252**	-0.252**	0.226***	0.226***	0.119**	0.119**
Lag Structure	4,1,1,1,3,0,1,4	4,1,1,1,3,0,1,4	2,2,1,1,4,4,1,0	2,2,1,1,4,4,1,0	4,1,1,1,3,0,4,0	4,1,1,1,3,0,4,0	4,0,1,1,4,0,4,0	4,0,1,1,4,0,4,0
Bounds F-Stat.	6.606***	7.035***	7.527***	8.399***	12.164***	13.119***	12.764***	14.140***
Bounds t-Stat.	-	-4.692**	-	-7.563***	-	-7.869***	-	-8.607***
Adj. R-Square	0.998	0.998	0.998	0.998	0.999	0.999	0.999	0.999
ECT_{t-1}	-0.221***	-0.221***	-0.396***	-0.396***	-0.662***	-0.662***	-0.714***	-0.714***
F-stat.	-	10.514***	13.611***	12.483***	-	21.294***	23.493***	21.579***
Durbin Watson	1.994	1.994	1.628	1.628	1.766	1.766	1.771	1.771
$\chi 2$ (Ser. Corr.)	0.006	0.006	1.040	1.040	2.027	2.027	2.733	2.733

Note: ***, **, and * denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively.

Table 5: ARDL (Long Term Coefficients and Error Correction Terms) (Continued)

	South Asia				sub-Saharan Africa			
	Case II	Case III	Case IV	Case V	Case II	Case III	Case IV	Case V
Dep.var.: lnTA								
Intercept	-94.318***	-	-	-	3.780	-	-	-
Trend	-	-	0.005	-	-	-	0.014	-
lnK	-0.510***	-0.510***	-0.536***	-0.536***	-0.142	-0.142	-0.143	-0.143
lnL	-9.959***	-9.959***	-8.334***	-8.334***	-0.193	-0.193	-3.187	-3.187
lnDCP	-0.402	-0.402	-0.417	-0.417	-0.011	-0.011	-0.033	-0.033
lnT	-0.826***	-0.826***	-0.873***	-0.873***	-0.264***	-0.264***	-0.428***	-0.428***
lnFDI	0.059*	0.059*	0.088**	0.088**	-0.058***	-0.058***	-0.069***	-0.069***
lnCPI	7.765***	7.765***	7.481***	7.481***	4.883***	4.883***	6.437***	6.437***
lnUSi	0.031**	0.031**	0.029**	0.029**	-0.003	-0.003	-0.012	-0.012
lnUSx	-1.659***	-1.659***	-1.625***	-1.625***	0.048	0.048	0.206*	0.206*
Lag Structure	4,0,2,4,1,4,2,4,4	4,0,2,4,1,4,2,4,4	4,0,3,4,1,4,3,4,4	4,0,3,4,1,4,3,4,4	3,1,0,0,1,1,1,2,0	3,1,0,0,1,1,1,2,0	3,1,0,0,42,2,1,0	3,1,0,0,42,2,1,0
Bounds F-Stat.	9.527***	10.500***	9.368***	10.260***	3.942***	3.510**	2.900	3.219
Bounds t-Stat.	-	-8.322***	-	-7.755***	-	-4.545***	-	-4.853*
Adj. R-Square	0.998	0.998	0.998	0.998	0.998	0.998	0.999	0.999
ECT_{t-1}	-0.540***	-0.540***	-0.625***	-0.625***	-0.221***	-0.221***	-0.286***	-0.286***
F-stat.	-	17.826***	17.138***	16.231***	-	18.913***	13.749***	12.585***
Durbin Watson	1.988	1.988	2.020	2.020	1.891	1.891	2.055	2.055
$\chi 2$ (Ser. Corr.)	13.743	13.743	1.679	1.679	1.294	1.294	1.102	1.102

Note: ***, **, and * denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively.

2.7 Conclusion

2.7.1 Summary of Major Findings

This study investigates the role of the FED monetary policy on international tourist arrivals using continental data. Time series analysis using the quarterly data is adopted to regional aggregates around the world with this respect. Results reveal that changes in the FED's interest rate policies exert statistically significant effects on the global tourist arrivals through the channels of macroeconomic dynamics such as changing exchange rates, money supply volumes in the markets, and international parities. However, the directions of these effects change from one region to another depending on their macroeconomic fundamentals plus the choices of international tourists to visit the related regions. Results exhibit that the US Monetary Policy impacts international tourist flows through the significant channels of domestic monetary policy reactions, FDI to the said regions, and domestic macroeconomic fundamentals such as capital formation, labor, and inflation. Therefore, the major research hypothesis of this study that the US Monetary Policy drives international tourist flows is validated in this study.

2.7.2 Policy Implications

Since the significant effect of the US Monetary Policy changes on international tourist flows around the world is found, important policy lessons are available for policymakers. Firstly, it is clear from the results of this study that changes in the US monetary policy tools will significantly impact domestic macroeconomic fundamentals and therefore on tourist markets. Thus, to prevent any negative effect of "expansionary monetary policy", for example, domestic governments need to count the effects of a possible appreciation in their currencies on tourist markets via more

expensive prices for foreigners. Once domestic currencies appreciate against the US dollar and the other currencies, domestic markets are likely to be expensive for international tourists. Then, promotion and incentive facilities might be needed to prevent possible declines in tourist flows to the countries. Currency appreciation might not only impact tourist flows but also might significantly impact exports, especially for export-dependent countries. Thus, this might create another burden for tourism firms that deliver tourism services to both domestic and foreign markets.

However, in the case of the restrictionary monetary policy by the FED, international tourist markets are likely to benefit positively through macroeconomic effects on tourist flows.

2.7.3 Research Limitations

This study used regional aggregate data which were available from the World Bank as annual figures. However, tourist data was available only after 1995; therefore, this deficiency led us to transform annual figures to quarterly figures using quadratic functions in EVIEWS software.

The second major limitation of this study was the lack of real exchange rate data for some regional aggregates which was the heart of the US monetary policy and tourist flows nexus. The lack of exchange rate data for such a research hypothesis is a very important research limitation; thus, we had to include inflation and money supply data as representatives with due respect.

2.7.4 Further Directions in Research

This study proposes a brand new original research question that is not available yet in the relevant literature. Thus, using a limited dataset in the current study shed light on important research opportunities in this field. To get better conclusions detailed country-based time series analysis and country-based panel data approaches

can be considered for testing this research hypothesis. Country-based studies are likely to provide better conclusions.

Chapter 3

CAUSAL INTERACTION OF TOURISM, FOREIGN DIRECT INVESTMENT, DOMESTIC CREDIT AND ECONOMIC GROWTH: EVIDENCE FROM SELECTED MEDITERRANEAN COUNTRIES

3.1 Introduction

International tourism is one of the leading services sectors around the world, which contributes to the wealth of nations not only out of income level but also out of the culture brought from the other countries. Literature studies extensively confirm that tourism is a significant source of income that contributes to the wealth of nations and closure of economic and financial deficits such as current account deficits and balance of payment deficits (Katircioglu et al., 2018). Previous studies find that tourism significantly impacts economic agents as well, such as financial and energy markets (Katircioglu et al., 2019; 2018). Tourism growth would mean expansion in financial services and finance-related activities as also argued by Katircioglu et al. (2018). Thus, it can be easily argued that tourism growth or tourism revenues and financial systems are interrelated.

Capital, infrastructure, and knowledge of global marketing, as well as tourism marketing, are the essential factors for development in the tourism sector; this is where foreign direct investment (FDI) comes in. Therefore, tourism and FDI are also interrelated since tourism grows because of FDI as well (Katircioglu, 2011).

Availability of FDI in an economy can serve as an essential means in developing the tourism sector since it can supply the financial source required to provide better infrastructure, technology, and knowledge. Increased FDI thus contributes positively to tourism development and eventually to economic growth (Contractor & Kundu, 1998; Dunning & Mcqueen, 1981; Kundu & Contractor, 1999; Sanford & Dong, 2000; Tisdell & Wen, 1991). Although FDI as a vital tool in tourism development was widely ignored in literature for many years (Dwyer & Forsyth, 1994), the relationship between FDI and the tourism sector has been empirically studied in some recent studies (Fereidouni & Al-mulali, 2014; Selvanathan, Selvanathan & Viswanathan, 2012; Katircioglu, 2011).

Against this backdrop in the relevant literature, this study aims to examine interactions between tourism and growth in a multivariate framework by the incorporation of FDI and domestic credits as exogenous variables in the case of the Mediterranean countries. Thus, our research is distinct from previous studies in terms of scope, by being the first (based on the authors' knowledge) to investigate the theme for selected Mediterranean countries. This study is also unique in terms of methodological novelty by the adoption of the most recent econometric procedures that account for cross-country dependence and heterogeneity.

The Mediterranean countries are characterized by special weather conditions and prime coastal areas which make the region a preferred destination in international tourism. Figure 1 shows the arrivals of non-resident tourists to Mediterranean countries' borders as of 2016. France, Spain, and Italy have the highest number of tourists among other Mediterranean Sea zone countries.

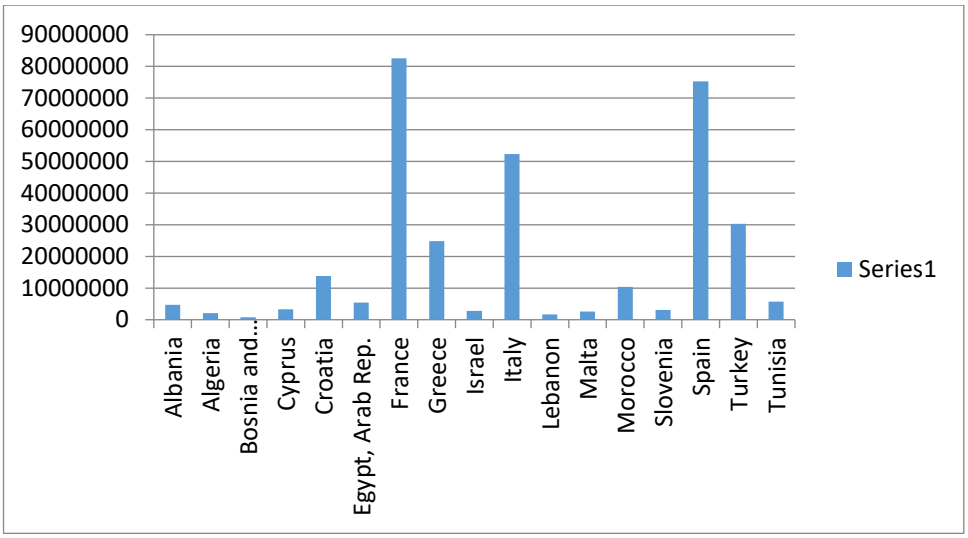

Figure 3: Arrivals of non-resident tourists at national borders- 2016 (Source: World Tourism Organization)

Provision of clean, safe, and beautiful beaches with high-quality weather and appropriate accommodation is a necessity that may not be sufficiently financed by domestic investors. Since FDI is considered a good source of economic growth in macroeconomics, these Mediterranean countries with good revenue from tourism should plan to attract more FDI, not only to achieve economic growth but also to reduce poverty and unemployment rates (Katircioglu, 2009d).

Several factors affect a typical investor's decision about investment in other countries. According to the Eclectic theory, these factors are heavily dependent on the characteristics of the locations and the degree of market internationalization. Place branding is another factor that is not only capable of attracting foreign investment but also able to attract tourism. Place branding thus causes development in the hospitality industry on one hand and attracts foreign direct investment, thereby linking investors to the tourism sector.

This study thus seeks to contribute to the extant literature by investigating the relationship between FDI, TR, and economic growth while controlling for the

contribution of domestic credit in a panel of 14 Mediterranean countries, using up-to-date panel econometric techniques.

The remainder of this study is organized as follows. Section 2 provides a review of related studies. Section 3 presents the data and methodology. Section 4 discusses the empirical findings. Finally, Section 5 presents the conclusion and possible policy direction.

3.2 Literature Review

The role of tourism in the income growth of countries has been extensively examined in the relevant literature. Some studies confirm the validity of the tourism-led growth hypothesis (Balaguer & Cantavella-Jorda, 2002; Gunduz & Hatemi-J, 2005; Katircioglu, 2011; 2010; 2009) while some others do not (Katircioglu, 2009b; 2009c).

The links of tourism with the segments of economies have also found interest from scholars as well. Katircioglu et al. (2018) set a link between tourism and the financial sector in Turkey and find that there exists a long-run link among them; they also find that foreign direct investments and foreign trade significantly affect this link. Katircioglu et al. (2018) also find that tourism growth in Turkey is mainly influenced by financial markets, but a feedback relationship has also been confirmed by the authors in the study.

Although one way to develop the tourism sector in many countries is through FDI, the dynamic and effect of FDI have not received much attention. Katircioglu (2011) finds that tourism and FDI are significantly interrelated and tourism growth attracts more FDI in Turkey.

On the other hand, extant studies point out the positive impact of FDI on the tourism sector (Bull, 1990; Forsyth & Dwyer, 1992; Purcell & Nicholas, 2001), as FDI

increases job opportunities, facilitates skills and knowledge transfer, improves technology and enhances management quality in the tourism sector. Foreign brands have a positive impact on a location's image; they also generate more trust and stability (UNCTAD, 2008). Peric and Radic (2010) also state that the infrastructures of countries such as airports and hotels are improved by FDI.

In contrast, some scholars discuss the negative impact of FDI on economic growth (Clancy, 1999; Freitag, 1994; Oppermann, 1993; Thompson, O'Hare & Evans, 1995). According to Copeland (1991), too much FDI inflow may raise the level of risk exposure in a recipient country. Besides, Brohman (1996) points out that development in the tourism sector through FDI translates into challenges for many developing countries and increases inequality.

Barrowclough (2007) finds that the main focus of FDI in the hospitality industry is accommodation. Based on the eclectic theory, Dunning and Mcqueen (1981) try to explain the role of transnational corporations in the hotel industry. The paper finds that the stability of the host country in terms of economic condition and politics are the main factors that attract FDI.

In literature, there is a significant correlation between the FDI source and the origin of the tourist who visits the host country (Buckley & Geyikdagi, 1996; Snyman & Saayman, 2009; Tang, Selvanathan & Selvanathan, 2007).

Some studies pay attention to the reasons why some countries attract more FDI than others. According to their investigation, some international agreements such as General Agreement on Trade in Services play an important role (Dunlop, 2003; Lee, Fayed, & Fletcher, 2002; Te Velde & Nair, 2006). Another attractive factor according to the study of Jarvis and Kallas (2008) is being part of the European Union. Some of the factors that cause some countries to receive less FDI than others include tax laws,

exchange rate fluctuation, inflation rate, and bureaucracy (Go et al., 1990; Te Velde & Nair, 2006; Zhao & Olsen, 1997).

There is evidence that shows the effect of tourism development on economic growth. A better hospitality industry creates more job opportunities and generates considerable revenue for the government (Lea, 1988; Sinclair, 1998; Telce & Schroenn, 2006). On the other hand, the tourism sector requires capital, infrastructure, and a good knowledge of marketing for its development. Thus, the availability of financial resources is important to the development of the tourism sector. Due to this reason, FDI plays a crucial role in tourism development (Andergassen & Candela, 2009; Zhang, Chong & Ap, 1999; Zhao & Olsen, 1997). This potential positive effect of FDI encourages further studies in this area.

In the last twenty years, most studies have used basic regression to analyze this relationship (Contractor & Kundu. 1998; Kundu & Contractor, 1999; Sanford & Dong, 2000). From the econometric point of view, these studies are not reliable; therefore, there is a need for methodological improvement to get better coefficient estimates and subsequently, for policy construction.

Tang et al. (2007), by using the Granger causality test and VAR, investigated the causal relationship between foreign direct investment and tourism in China. They found one-directional causality running from FDI to tourism. Craigwell and Moore (2008) applied panel causality methods on data from Small Island Developing States and found a bidirectional causal relationship between FDI and tourism. Rajapakse (2016), by using time series quarterly data from 2005:1 to 2013:4 and applying time series econometric techniques, found that FDIT and TOUR and FDIT to FEE have unilateral causal relationships in Sri Lanka. Khoshnevis Yazdi et al. (2017a) investigated the causality between the tourism industry and economic growth from

1988 to 2013 in Iran by applying Granger causality tests, as well as VECM and ARDL models. The study found bidirectional short-run causality among the investigated variables. Khoshnevis Yazdi et al. (2017b) found that FDI and TR do not have a causal relationship and that real exchange rate, trade openness, and tourism in EU countries have bilateral relationships.

In summary, empirical studies about the relationship between FDI, tourism, and the hospitality industry are limited in number and mostly focus on single countries without any separation between the short-run and long-run causality.

3.3 Data and Methodology

To investigate the causal interaction between economic growth, tourism, foreign direct investment, and domestic credit, annual data from 1995 to 2016 are employed for econometric analysis. For the list of sampled 14 Mediterranean countries. The data was sourced from the World Bank development indicators (https://data.worldbank.org/indicator). More detailed explanations regarding the variables are provided below:

The empirical route followed in this study is in four steps; (i) Test for cross-sectional dependency. This is necessary to establish whether the common shock effect exists. (ii) Stationarity test among the variables of interest over the sampled period with Pesaran (2007) estimator. (iii) Test for long-run (cointegration) equilibrium relationship via the Westerlund (2007) cointegration test with bootstrapping. (iv) Finally, the Dimitrescu and Hurlin (2012) approach is used to determine causal flows among the variables under review.

Table 6: Variable description

Name of Variable	Symbol	Variable explanation	Source
Explained variable			
Gross domestic product	RGDP	Gross domestic product (constant 2010 USD)	World development indicator
Explanatory variable			
Foreign direct investment	FDI	Equity capital+ Reinvestment of earnings+ Other capital.	World development indicator
Domestic credit	DC	Consist of credit to different sectors on a gross basis except for credit to the central government	World development indicator
International tourism receipt	TR	Is the expenditure by international inbound visitors, including payment to national carriers for international transport	World development indicator

3.3.1 Model Specification

This study validates the aforementioned hypothesis with the econometrics model given below:

$$RGDP = f(TR, FDI, DC) \tag{1}$$

A logarithm transformation was carried out on equation 1

$$\ln RGDP_{it} = \beta_0 + \beta_1 \ln TR_{it} + \beta_2 \ln FDI_{it} + \beta_3 \ln DC_{it} + \varepsilon_{it} \tag{2}$$

From equation (2) i =1, 2,…..N while t = 1,2,….T and β_0 constant term while $\beta_1, \beta_2, \beta_3$ are unknown elasticity coefficients of the regressors and ε_{it} is the stochastic error term.

3.3.2 Cross-Sectional Dependency

Panel econometrics data are usually plagued with a common shock effect. This is popularly known as a cross-sectional dependency (CSD). The CSD phenomenon implies the existence of a common effect among the cross-sectional dimensions of the

data series (see Breusch & Pagan, 1980; Pesaran, 2007). The modeling of CSD on the fitted regression helps to avoid spurious regression trap and wrong inference by extension. The Lagrange multiplier (LM) test proposed by Breusch and Pagan (1980) is a commonly used technique for CD test.

$$CDLM = T\Sigma \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \rho^2 \, ij \sim X^2 \frac{N(N-1)}{2} \quad (3)$$

The LM statistics are given as $\sum_{i=1}^{N} u^2$ (sum of squared residuals from the correlation coefficient). Here the statistics are asymptotically distributed by χ^2 (chi-square) and the parameter is given as $N(N-1)/2$, where N is the number of observations and ε depicts residuals.

3.3.3 Panel Unit Root Test (PURT)

Panel unit root testing procedures consider both the time-series and the cross-sectional dimensions of the data series. The panel unit root test is reputed to be more efficient than the conventional time series that only considers the time dimension (see Baltagi, 2008). This is because the strength panel data derives from both time and cross-sectional dimensions with increased variability and less collinearity. However, knowing that macro panel data are usually plagued with the CSD phenomenon, the need for second-generation panel estimation techniques becomes necessary (Maddala & Wu, 1999; Pesaran, 2007). The second generation panel unit root tests accommodate CSD and produce asymptotically robust estimates that are not spurious. This study, therefore, employs the second generation panel unit root tests that are resilient to cross-sectional dependency and heterogeneity. The Cross-sectionally Augmented Dickey-Fuller (CADF,2007) and Cross-sectional augmented Im, Pesaran, and Shin (CIPS, 2003) panel unit root tests were both applied, given their abilities to provide reliable, robust, and consistent results in the presence of CSD and heterogeneity.

3.3.4 Panel Co-integration Test (PCT)

The use of the panel co-integration approach in exploring the interaction among series for long-run equilibrium relationships has gained popularity in the empirical literature, given that most economic/finance hypotheses and postulates are long-run based. However, despite the obvious, several studies have failed to affirm co-integration. The reason underpinning the above is that time series and panel data estimation procedures require that the estimated parameters be of the same order of integration either at the same level and difference form respectively. This shortfall, which is a limitation, was rectified by the newly developed Westerlund (2007) co-integration approach that advances four co-integration estimators to fix the shortcoming and as such gives more reliable and robust estimates. The merits of the newly developed technique are that the test is based on structural dynamics as against other previous cointegration tests that are residual-based. Thus, it does not impose a common factor restriction.

The rationale of this procedure is to analyze the null of no co-integration and the assumption that the error correction term (ECT) in a conditional panel is equal to zero. The first two tests (Ga and Gt) were proposed to the alternative hypothesis where the whole panel blocs are co-integrated. However, the (Pa Pt) were also advanced to explore against the alternative hypothesis that at least one unit root of the panel is co-integrated. The model specification is given as:

$$\Delta y_{it} = C_i + \beta_{oi}\left(y_{i,t-1} - b_{ixit-1}\right) + \sum_{j=1}^{p_{i1}} \beta_{11j}\Delta y_{i,t-j} + \sum_{j=-p_{2i}}^{p_{3i}} \beta_{2ij}\Delta x_{it-j} + \varepsilon_{it} \qquad (4)$$

Here, the adjustment to equilibrium path is given β_{oi} the penultimate term is made up of Δx as well as leads otherwise we assume exogeneity.

To estimate the magnitude of the long-run (cointegration) coefficient among variables, our study adopts the dynamic pooled mean group ARDL methodology as developed by Pesaran, Shin, and Smith (1999). The technique is applicable in the presence of a mixed order of integration among variables. Also, the choice of the technique is informed by its ease of computation as well as its ability to generate reliable and consistent estimates in small sample sizes.

3.3.5 Panel Granger Causality (PGC)

This study utilizes a heterogeneous non-causality panel test advanced by Dumitrescu and Hurlin (2012) to investigate causal interaction between the variables under review. The Dumitrescu and Hurlin (DH) tests are suitable where the cross-sectional dimensions are growing while the time dimension is non-stochastic. The test also thrives where T > N, where T represents time and N stands for the number of observations The DH test is built on the VAR framework and assumes the absence of CSD. Monte Carlo simulations reveal that the DH test still generates valid estimates even in the presence of CSD. The test also shows resilience in the application in both heterogeneous and balanced panels. Furthermore, the DH test displays two distinct features in its distribution, namely asymptotic and semi-asymptotic. The asymptotic is applicable where T > N while semi-asymptotic when N > T. In the presence of CSD, the simulated and critical values from duplication are used. The linear form of the model specification formula is as follows:

$$y_{it} = \sum_{k=1}^{k} \gamma_i^{(k)} y_{i,t-k} + \sum_{k=1}^{k} \beta_i^{(k)} x_{i,t-k} + \varepsilon_{i,t} \tag{5}$$

Where k represents the lag length, $\gamma_i^{(k)}$ is the autoregressive parameter term while $\beta_i^{(k)}$ denotes the regression coefficient that varies within the groups.

The homogenous non-stationary hypothesis(HNC) null hypothesis against an alternative hypothesis is rendered as:

$$H_0 : \beta_i = 0 \qquad \forall_i = 1, ...N$$

$$H_1 : \beta_i = 0 \qquad \forall_i = 1, ...N_1$$

$$\beta_i \neq 0 \qquad \forall_i = N_1 + 1, N_1 + 2, ...N$$

Where N_1 denotes the unknown parameter but it satisfies the condition $0 \leq N_1 / N \prec 1$. However, the ratio of N_1 / N is required to be inevitably inferior to 1, because if $N_1 = N$. This implies no causal relationship for any of the countries in the panel. Thus, we fail to reject the null hypothesis of HNC. On the other hand, when $N_1 = 0$, this depicts a causal relationship for the entire individuals in the panel.

The causal relationship models are given as:

$$\Delta RGDP_{it} = \theta_{1j} + \lambda_{1t}\varepsilon_{it-1} + \sum_k \theta_{11,ik}\Delta RGDP_{it-k} + \sum_k \theta_{12,ik}\Delta TR_{it-k} + \sum_k \theta_{13,ik}\Delta FDI_{it-k} + \sum_k \theta_{14,ik}\Delta DC_{it-k} + \mu_{1,it} \quad (6)$$

$$\Delta TR_{it} = \theta_{2j} + \lambda_{2t}\varepsilon_{it-1} + \sum_k \theta_{22,ik}\Delta TR_{it-k} + \sum_k \theta_{22,ik}\Delta RGDP_{it-k} + \sum_k \theta_{23,ik}\Delta FDI_{it-k} + \sum_k \theta_{24,ik}\Delta DC_{it-k} + \mu_{2,it} \quad (7)$$

$$\Delta FDI_{it} = \theta_{3j} + \lambda_{3t}\varepsilon_{it-1} + \sum_k \theta_{32,ik}\Delta FDI_{it-k} + \sum_k \theta_{32,ik}\Delta RGDP_{it-k} + \sum_k \theta_{33,ik}\Delta TR_{it-k} + \sum_k \theta_{34,ik}\Delta DC_{it-k} + \mu_{3,it} \quad (8)$$

$$\Delta DC_{it} = \theta_{4j} + \lambda_{4t}\varepsilon_{it-1} + \sum_k \theta_{42,ik}\Delta DC_{it-k} + \sum_k \theta_{42,ik}\Delta RGDP_{it-k} + \sum_k \theta_{43,ik}\Delta TR_{it-k} + \sum_k \theta_{44,ik}\Delta FDI_{it-k} + \mu_{4,it} \quad (9)$$

k denoted parsimonious lag length as chosen Akaike Information Criteria.

3.4 Empirical findings and discussions

We start by analyzing the summary statistics of the variables under consideration. Afterward, we analyze the Pearson correlation test results (See Table 5).

The descriptive statistics are reported in Table 7. We observe that France has the highest average value, while Albania has the lowest average value relative to other

countries sampled in the region. Regarding tourism receipt, France and Spain are ranked topmost compared to other countries. This explains the high tourism attraction in France and Spain.

Table 7: Descriptive statistics

Countries	Variable	Mean	St. Deviation	Minimum	Maximum
Albania					
	RGDP	9.84E+09	2.77E+09	5.47E+09	1.40E+10
	FDI	5.773126	3.103738	1.206527	11.16018
	TR	1.06E+09	7.29E+08	3.40E+07	2.01E+09
	DC	57.70406	11.09655	37.48784	73.06796
Algeria					
	RGDP	1.43E+11	3.38E+10	9.32E+10	1.99E+11
	FDI	3655976	1.65E+07	-0.24319	7.91E+07
	TR	2.35E+08	1.45E+08	2.80E+07	4.77E+08
	DC	22.58203	23.19996	-12.6983	66.79956
Bosnia					
	RGDP	1.42E+10	4.33E+00	3.33E+09	1.95E+10
	FDI	328843	1138816	0.786376	4881013
	TR	6.62E+08	4.58E+08	2.46E+08	2.54E+09
	DC	3.36E+08	1.13E+09	23.39198	4.61E+09
Cyprus					
	RGDP	2.18E+10	3.44E+09	1.56E+10	2.57E+10
	FDI	16.84734	44.27178	-43.4626	198.0745
	TR	2.47E+09	3.99E+08	1.85E+09	3.20E+09
	DC	3.59E+08	9.60E+08	195.795	3.07E+09
Croatia					
	RGDP	5.47E+10	7.68E+09	3.96E+10	6.55E+10
	FDI	3.904955	2.070853	0.321633	7.600487
	TR	6.80E+09	3.28E+09	1.35E+09	1.16E+10
	DC	3.83E+08	1.01E+09	45.10967	3.10E+09
Egypt					
	RGDP	1.81E+11	5.21E+10	1.06E+11	2.72E+11
	FDI	2.51E+00	2.597611	-0.20453	9.343527
	TR	6.79E+09	3.22E+09	2.94E+09	1.36E+10
	DC	87.88752	12.83631	69.42204	119.6001
France					
	RGDP	2.51E+12	2.49E+11	2.03E+12	2.86E+12
	FDI	2.079165	1.000629	0.20369	3.87861
	TR	5.01E+10	1.32E+10	2.74E+10	6.80E+10
	DC	2.55E+08	5.00E+08	100.5252	1.46E+09
Greece					

	RGDP	2.68E+11	3.69E+10	2.10E+11	3.32E+11
	FDI	3162313	1.52E+07	-0.0063	7.27E+07
	TR	1.26E+10	4.85E+09	3.76E+09	1.95E+10
	DC	6.60E+07	3.16E+08	91.65037	1.52E+09
Israel					
	RGDP	2.08E+11	4.89E+10	1.36E+11	2.97E+11
	FDI	3.30452	1.929027	1.270584	9.349736
	TR	7.09E+09	1.26E+10	2.43E+09	6.47E+10
	DC	3.60E+07	1.73E+08	70.38132	8.28E+08
Morocco					
	RGDP	8.04E+10	2.29E+10	4.71E+10	1.19E+11
	FDI	1.85576	1.406856	0.00637	4.441995
	TR	5.67E+09	2.93E+09	1.47E+09	9.10E+09
	DC	84.5422	21.39101	46.96817	112.6769
Turkey					
	RGDP	7.20E+11	2.36E+11	4.28E+11	1.21E+12
	FDI	1.347982	0.941705	0.305998	3.65348
	TR	2.01E+10	1.13E+10	4.96E+09	3.88E+10
	DC	52.65072	17.41287	26.81648	80.60418
Tunisia					
	RGDP	3.69E+10	8.91E+09	2.22E+10	4.96E+10
	FDI	8.78E+07	4.21E+08	0.944467	2.02E+09
	TR	2.48E+09	6.63E+08	1.71E+09	3.91E+09
	DC	72.68415	11.14566	61.90427	96.91851
Spain					
	RGDP	1.29E+12	1.79E+11	9.41E+11	1.51E+12
	FDI	2.91401	1.576323	0.328416	6.800353
	TR	4.83E+10	1.34E+10	2.74E+10	6.51E+10
	DC	4.35E+08	8.62E+08	116.4194	2.39E+09
Italy					
	RGDP	2.07E+12	9.68E+10	1.87E+12	2.23E+12
	FDI	0.985841	0.8219092	-0.39738	2.995266
	TR	3.72E+10	6.31E+09	2.69E+10	4.62E+10
	DC	4.91E+08	2.05E+09	93.53198	9.84E+09

Source: Authors' computation

Table 8: Pearson correlation coefficients matrix

	*ln*RGDP	*ln*TR	*ln*FDI	*ln*DC
lnRGDP	1.0000			
T-Stat	-----			
P-value	-----			
No. Obs.	309			
lnTR	0.8012***	1.0000		
T-Stat	23.4567	-----		
P-value	0.0000	-----		
No. Obs.	309	309		
lnFDI	0.2312***	0.1880***	1.0000	
T-Stat	4.1644	3.3543	-----	
P-value	0.0000	0.0009	-----	
No. Obs.	309	309	309	
lnDC	0.1277**	0.18458***	0.0949*	1.0000
T-Stat	2.2566	3.2905	1.6717	-----
P-value	0.0247	0.0011	0.0956	-----
No. Obs.	309	309	309	309

Source: Authors' computation
*Note: ***. **,* denotes 0.01, 0.05 and 0.10 rejection level of significance respectively.*

The Pearson correlation coefficient estimate matrix is presented in Table 8. We observe a positive and significant relationship between all the variables under consideration. For instance, a positive and significant relationship is observed between real GDP and tourism. This validates the tourism-economic growth synergy. A similar trend is seen between FDI and tourism. Although the correlation relationship gives a glimpse of what sort of relationship exists among variables, there is a need to substantiate with more consistent and robust econometric tests to validate the results from the correlation analysis. Thus, this study proceeds to estimate the necessary econometric estimations.

Ascertaining common effect shock among the cross-sectional dimension of the dataset is necessary to avoid the spurious assumption of cross-sectional independence. To circumvent this problem, we conduct a cross-sectional dependency test. Our study

estimates the Pesaran (2007) cross-sectional dependency test which confirms cross-sectional dependency, given the rejection of the null hypothesis of cross-sectional independence for all variables under review.

Table 9: Pesaran (2007) cross-sectional dependency test

Variable	CD-Test	P-value	Corr.	Abs(corr.)
RGDP	36.47***	0.000	0.833	0.833
TR	31.07***	0.000	0.712	0.712
FDI	3.11***	0.002	0.069	0.250
DC	2.92***	0.003	0.069	0.436

Note: null states cross sectional independence CD ~N (0, 1)
*Note: ***. **,* represents *0.01, 0.05 and 0.10 rejection level of significance respectively.*

Table 10: Cross sectional dependency result

Test	Statistic	Prob.
Breusch-Pagan Chi-square	955.5445***	0.0000
Pearson LM Normal	63.04655***	0.0000
Pearson CD Normal	4.852749**	0.0393
Friedman Chi-square	91.06213***	0.0000

*Note: ***. **,* denote 0.01, 0.05 and 0.10 rejection significance level respectively.*

We also investigate the stationarity properties of the variables with CIPS and CADF unit root tests. In Table 11, both tests are consistent and give reliable results in the presence of cross-sectional dependence and heterogeneity. CIPS reports that all the variables, except tourism, are the first-difference stationary. The CADF test results also show that except domestic credit, all other variables are the first-difference stationary at a 1% significance level. Both tests strongly confirm that all the variables are the first-difference stationary; that is, all the variables are I (1). However, some of the variables are I(0) while others are I(1).

Table 11: Unit root result

	CIPS		CADF	
	Level	Δ	Level	Δ
RGDP	-1.779	-4.340***	-1.913	-3.129***
TR	-2.584***	-4.693***	-2.103	-3.129***
FDI	-1.062	-4.823***	-1.746	-2.863***
DC	-1.965	-3.872***	-2.152*	-2.726***

*Note: ***. **,* denotes 1%, 5% and 10% significance rejection level respectively.*

Next, we estimate for long-run equilibrium (cointegration) relationship among the variables. The relatively recent Werterlund (2007) panel cointegration test is estimated with 10,000 iterations as reported in Table 10. We observe the very weak presence of cointegration. Cointegration is seen only at the whole panel basis and no support of cointegration at each cross-sectional basis.

Table 12: Westerlund (2007) bootstrapping coitegration test

Statistic	Value	Z-value	P-value	Robust P-value
Gt	-1.225	6.355	1.000	0.930
Ga	-4.721	5.032	1.000	0.210
Pt	5.910	3.514	1.000	0.360
Pa	-3.877**	4.073	1.000	0.020

Note: 0.01, 0.0 5 and 0.10 mean rejection significance level respectively. The simulation was conducted with 100000 repetitions via bootstrapping regression Here, Gt and Ga test for cointegration individually for each country, and t Pa and Pt on the other hand test cointegration for the bloc as a whole.

Table 13: Pooled mean group with dynamic autoregressive distributed lag (PMG-ARDL(1,1,1,1))

Model: RGDP=f(TR,FDI,DC)				
	Long run Equation			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNTR	0.1072***	0.0115	9.3295	0.0000
LNFDI	0.0428***	0.0068	6.2456	0.0000
LNDC	-0.0049***	0.0014	-3.3894	0.0008
	Short Run Equation			
ECT	-0.1830***	0.0464	-3.9457	0.0001
Δ LNTR	0.0359**	0.0144	2.4990	0.0132
Δ LNFDI	0.0037*	0.0019	-1.8972	0.0591
Δ LNDC	-0.0326*	0.0169	-1.9306	0.0548
Constant	4.1551***	1.0569	3.9314	0.0001

*Note: (i) number of observation 288, information criterion-Akaike information criterion (AIC),lag 1 as suggested by AIC and most parsimonious (ii) ***. **,* denotes 0.01, 0.05 and 0.10 rejection level respectively.*

The dynamic long-short run analysis is presented in Table 13. The panel ARDL estimation is robust with a speed of adjustment towards the long-run equilibrium path of 18% (error correction term) convergence with the contribution of the regressor (tourism, foreign direct investment, and domestic credit) on an annual basis. This study offers empirical support to the tourism-led growth hypothesis in both the long and short run. In the long run, we observe that a 1% increase in tourism translates into a 0.10% increase in real output of the Mediterranean countries. A similar trend is observed in the short run. This is in line with the recent studies of Roudi, Arasli, and Akadiri (2018). Our study also shows that in both the short and long run, a statistically positive and significant relationship exists between FDI and real GDP in the Mediterranean countries as a 1% increase in FDI births a corresponding increase in economic growth at the magnitude of 0.004% and 0.04% in the short and long run respectively. This implies that FDI engenders economic growth; thus, the government officials of the sampled region are encouraged to attract more FDI, especially in terms of tourism to boost economic growth. Regarding the impact of domestic credit on

economic growth, our study shows a negative and statistically significant impact on economic growth. The plausible reason could be attributed to the weak financial institutions and the effect of the global financial crises in late 2008 and early 2009 as a result of the crash of Lehman Brothers. By and large, there is a need to strengthen the financial institutions for the investigated region to attract more FDI in the tourism sector which in the long-run translates into national prosperity.

Finally, Dumitrescu and Hurlin (2012) Granger causality test is employed to probe causal relationships among the variables. As reported in Table 14, we observe a bi-directional causality between tourism and economic growth, thus validating the tourism-induced growth hypothesis and vice versa for economic growth-inducing tourism attraction for the Mediterranean countries. This is insightful as most countries in the bloc investigated are rated as top tourism destinations by the United National World Trade Organization (UNWTO, 2018) recent bulletin. For example, France is the topmost tourism destination, followed by Spain. Previous empirical studies such as Sokhanvar, Çiftçioğlu, and Javid (2018) also lend support to the outcome of our study. This revelation is quite useful to the bloc of countries within the region as more pragmatic steps can be taken to sustain development.

Similarly, one-way causality is seen running from FDI to real output as seen also in the study of Tang et al. (2007) in China over the investigated period. This corroborates the FDI-induced growth hypothesis. The same trend of unidirectional causality from FDI to tourism is found in the study of Rajapakse (2016) in Sri Lanka.

Our study did not find support for causal interaction from domestic credit to real GDP in either way. Same neutrality hypothesis is observed from domestic credit to tourism and domestic credit to FDI.

Table 14: Dumitrescu and Hurlin (2012) Panel causality test

Null Hypothesis:	W-Stat.	Zbar-Stat.	Causality	Prob.
LNTR does not homogeneously cause LNRGDP	3.45870*	1.66290	TR↔RGDP	0.0963
LNRGDP does not homogeneously cause LNTR	4.20357***	2.71888		0.0066
LNFDI does not homogeneously cause LNRGDP	6.12057	5.35727	FDI→RGDP	8.E-08
LNRGDP does not homogeneously cause LNFDI	4.90935***	3.65996		0.0003
LNDC does not homogeneously cause LNRGDP	2.87376	0.79795	DC≠RGDP	0.4249
LNRGDP does not homogeneously cause LNDC	6.56517	5.94094		3.E-09
LNFDI does not homogeneously cause LNTR	6.87457	6.41386	FDI→TR	1.E-10
LNTR does not homogeneously cause LNFDI	3.70728**	1.97548		0.0482
LNDC does not homogeneously cause LNTR	7.40709	7.11393	DC≠TR	1.E-12
LNTR does not homogeneously cause LNDC	7.72792	7.56091		4.E-14
LNDC does not homogeneously cause LNFDI	2.06599	-0.34302	DC≠FDI	0.7316
LNFDI does not homogeneously cause LNDC	2.64136	0.44515		0.6562

Source: Authors' computation

*Note: ***. **,* denotes 1%,5% and 10% significance rejection level respectively. Here ≠,→ and ↔ represents No Granger causality, one-way causality, and bi-directional causality respectively.*

3.5 Conclusion/Policy Implications

Despite the huge development in tourism and the hospitality industry by most developed and developing economies, few studies have examined the effect of FDI on tourism. The originality of this study lies in its use of a sample of Mediterranean countries over the period 1995-2016 within a balanced panel framework while incorporating domestic credit into the econometric framework. Our study leverages on recent panel estimators that account for cross-sectional dependency and heterogeneity which previous studies fail to address but which is necessary to enhance robust coefficients and reliable results for onward policy construction(s).

The CIPS and CADF panel unit root test results reported in Table 9 confirm that all the investigated variables have a mixed order of integration. Thus, the Panel PMG-ARDL was used to ascertain the magnitude of long and short-run effects. The results suggest a positive and statistically significant relationship between tourism and economic growth, that is, tourism drives economic growth in the Mediterranean countries.

This study gives credence to the tourism-led growth hypothesis as supported in a study of India by Selvanathan et al. (2012), a study of emerging market economies by Sokhanvar et al. (2018), and a study of a panel of Small Islands by Alola and Alola (2018), Craigwell and Moore (2008), and Roudi et al. (2018). Thus, tourism is seen as a key determinant of economic growth for the various economies.

As results show that FDI is important in the development of the tourism sector in the selected countries, policymakers should provide better ways to attract foreign investment. By using this financial source, they can provide new tourist areas and better facilities to increase tourism demand. It is obvious that because of different economic structures and geographical conditions, capital inflow across these countries

is not the same. There is thus the need for country-specific policies based on their unique characteristics. Determinants of FDI in the service sector and goods market are quite different, thus the need for them to be considered separately in policy formulation is of the essence. In addition to the findings of this paper, appropriate tax regulation, reducing the procedure of investment, and providing some necessities such as land for foreign investors can be helpful to attract more FDI.

Our study also corroborates the FDI-led growth hypothesis, with the one-way causality found running from FDI to tourism and economic growth. This implies that FDI and tourism are key to the economic prosperity of the investigated countries. However, no causal relationship was observed between domestic credit and economic growth and also tourism. This finding is insightful as it depicts the failed financial sector in the sampled region. Government officials in the region are therefore advised to take pragmatic steps to strengthen their various financial sectors, given the global financial distress and interconnectedness of most economies around the globe. Since shocks in one region can have a ripple effect in other regions, government administrators are required to strengthen their institutions as a means of insulating their economies from externalities emanating out of other regions. Furthermore, as a direction for further inquiry, other scholars could investigate tourism, FDI economic growth nexus by incorporate other macro-economic variables. Also, the need to model asymmetry is key as most macro-economic variables exhibit a non-linear relationship.

Chapter 4

CONCLUSION AND POLICY IMPLICATIONS

4.1 Summary of Major Findings

This thesis has focused on various interactions between financial markets, the tourism industry, and real income growth using two separate sample sets and time-series analyses. The results of this study reveal important policy messages and further research directions for academics.

As a first empirical study, this thesis searched the role of the FED monetary policy on the global tourist flows. The argument behind this empirical research idea is that because the US is the major actor of the global financial system, changes in the FED monetary policy tools would influence global tourist flows around the world through the channels of macroeconomic and financial changes such the ones in exchange rates, prices, and costs of travels which are all likely to exert impact on tourist choices for targeted destinations. A continental tourist flows and macroeconomic data are selected for each region in addition to proxies of the FED monetary policy tools. The results of this study confirm the long-term effects of the FED monetary policy tools on the global tourist flows. Therefore, the first Research hypothesis proposed in this thesis is accepted and validated. However, results reveal that the US monetary policy exerts positively significant effects in some regions while these effects are negative in some others.

A positive effect of the US interest rate policy reveals that, for example, a rise/decline in the US interest rates is likely to result in increases/decreases in tourist flows to those destinations. This can be explained by the possibility that as a result of rising/decline in the US interest rates, the US dollar will appreciate/depreciate against the other currencies, particularly of those destinations; therefore, as a result of depreciation/appreciation of the other currencies will result in the lower/higher costs of travel, accommodation, and shopping/food/drink opportunities. Therefore, this major finding in this study should not be surprising.

On the other hand, a negative effect of the US interest rate policy reveals that, for example, a rise/decline in the US interest rates is likely to result in decreases/increases in tourist flows to those destinations. This can be explained by the possibility that as a result of rising/decline in the US interest rates, the US dollar will appreciate/depreciate against the other currencies, particularly of those destinations; therefore, although depreciation/appreciation of the other currencies will result in the lower/higher costs of travel, accommodation, and shopping/food/drink opportunities, it is likely that travelers will not choose cheaper destinations but continue to visit the other favorite places they used to do. Although this major finding in this study is surprising, such justification is reasonable.

The second empirical study of this thesis has analyzed the causal links between tourism, FDI, financial markets, and real income growth in the case of the selected Mediterranean countries. Therefore, a panel of 14 selected surrounding the Mediterranean Sea region has been selected. Firstly, this study confirms the validity of the tourism-led growth hypothesis in the Mediterranean region. However, feedback causality is also observed between tourism growth and real income growth. Therefore, this study both confirms the TLGH hypothesis and the reality that tourism activity and

tourism growth in the Mediterranean are also output-driven. This study also confirms the existence of unidirectional causality which runs from FDI and real income growth. Therefore, since tourism mainly comes with FDI, this finding is also reasonable. Interestingly, this study does not find any causality between financial market activity and real income growth in the Mediterranean. This is interesting because tourism provides financial inflows to the countries and financial markets benefit from tourism growth. But, the flow of links from tourism to financial markets and then to real income growth cannot be confirmed in this study for the Mediterranean region.

4.2 Policy Implications

This thesis contains numerous policy implications for policymakers and the related economic agents. In the case of the first empirical study, although the positive effect of the US interest rate policy on tourist flows to the other countries is not surprising and it is what was expected, the negative effect was surprising and was not expected. Therefore, it seems that, for example, although the local currency might depreciate as a result of increases in the US interest rates, tourist flows to the related country continues to decline regardless of cost advantage for travelers. In such happening, various business strategies such as marketing, advertising, and promotion policies become more important. Of course, the country's political and socio/economic climates are also important for international tourists during their travel choices. Thus, all these factors should be seriously taken into consideration at the national level as well.

In the case of the second empirical study, although TLGH is confirmed for the Mediterranean countries, this thesis does not confirm any significant link between tourism growth and financial markets, and between financial markets and real income. This major finding is interesting and surprising. In such countries like the

Mediterranean states, as a result of tourism growth, both tourism and financial sectors are expected to impact real income growth significantly. This is because financial markets benefit from foreign Exchange inflows owing to tourism. This finding raises the question “if tourism does not impact financial markets significantly, then where tourism revenues are transferred”. This is the question to be answered. In the Mediterranean, there are developed financial markets such as Italy, France, and Turkey. Therefore, an insignificant link between the tourism-financial markets-macroeconomy should be well analyzed by the government and policymakers. This is because tourism cannot influence the overall income directly but it influences real income by creating value-added on the sectoral levels such as agriculture, food/beverage, restaurants, banking, and insurance among others.

4.3 Research Limitations

This study faced various Research limitations like many studies over many years. The biggest obstacle experienced in this thesis was related to data availability. For example, in the first empirical study, the main argument about interactions between the US monetary policy and continental tourist flows was based on financial markets, namely Exchange rates. This is because any policy reaction of the FED would simultaneously affect foreign Exchange markets and therefore tourist decisions for traveling due to cost changes in the targeted destinations. However, real Exchange data were not available for many regions in the World Bank Development Indicators. Therefore, although Exchange rates were centrum in the Research hypotheses of this thesis, we couldn’t include Exchange rates in the empirical study to provide further support to our Research questions.

Another problem during data collection in this thesis was the reality that various datasets in some periods were not available for some regions. Thus, we had to adopt unbalanced time series data in our analyses.

4.4 Further Research Directions

Both major results and data availability problems in this study signal for further Research opportunities in the same area. For example, in the first empirical study, we used continental aggregates. Therefore, further researches might choose to analyze the impact of the US monetary policy on tourist flows to country-level destinations. This can be done using both time series and/or panel data analyses.

Secondly, in the second empirical study, we selected the Mediterranean states for the nexus between tourism, FDI, financial markets, and growth. Further Researches might consider choosing the other major tourist destinations such as the United States, China, Germany, and the Far East among others. This will enable researchers to carry out a good comparison with the results of this thesis.

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