Interactions between Tourism, Services Trade and Economic Growth

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ABSTRACT

The aim of this thesis is to search the role of services trade and tourism in economic growth. For this purpose, thesis is divided in three sections: the first section focuses on the role of services trade and tourism in economic growth of Turkey using time series analysis. Results confirm the long-term effects of tourism and trade in economic growth. The effects of tourism and trade sectors in economic growth are inelastic but positively significant. Results do also confirm that tourism and trade sectors are the promoters for macroeconomic activity; and foreign trade as control variable is also a promoter for international tourism in Turkey. Real exchange rates have been found as successful mediators between tourism, trade and growth; thus, this raises the importance of exchange rate policies in Turkey. Finally, a result of this study has raised the reality of import dependency of tourism development in Turkey which might contradict with exchange rate policies of the Turkish Central bank.

In the second section, the role of oil price changes in the effects of services trade and tourism on real income growth in Turkey is examined. Time series analysis using the 1960-2017 annual period has been adapted with this respect. Results confirm the long-term impacts of tourism and services trade sectors on real income growth in Turkey. Tourism and trade (both services and manufacturing) exerts positively significant effects on the long-term performance of macroeconomic activity as measured by gross domestic product. Oil prices negatively impact on real income growth of Turkey. It is also found that oil prices negatively moderate the effects of foreign trade, services trade, and tourism on real income growth in Turkey. This

finding reveals that significant effects of foreign trade, services trade, and tourism on real income are negatively influenced from oil price changes.

In the third section, the focus is to search the role of services trade and tourism in real income growth of the European Union (EU) countries using panel data analysis. Results confirm the long-term effects of tourism and trade on economic growth. The effects of services trade on income levels are elastic and positively significant while the effects of tourism expansion are inelastic and of mixed outcomes as far as its sign of coefficients and significance are concerned. Results do not also show uniformity between panel and time series estimations of this nexus.

Keywords: Tourism; Growth; Oil Prices; Services Trade; European Union; Turkey.

ÖZ

Bu tezin amacı, hizmet ticaretinin ve turizmin ekonomik büyümedeki rolünü araştırmaktır. Bu amaçla tez üç bölüme ayrılmıştır. İlk bölümde, zaman serileri analizi kullanılarak ticaret ve turizmin Türkiye'nin ekonomik gelişimindeki rolü test edilmiştir. Sonuçlar, turizmin ve ticaretin ekonomik büyüme üzerindeki uzun vadeli etkilerini doğrulamaktadır. Turizm ve ticaret sektörlerinin ekonomik büyüme üzerindeki etkileri esnek değildir ancak olumludur. Sonuçlar aynı zamanda turizm ve ticaret sektörlerinin makroekonomik aktivite için teşvik edici olduğunu teyit etmektedir ayrıca, dış ticaret kontrol değişkeni olarak Türkiye'de uluslararası turizm için teşvik edicidir. Reel döviz kurları turizm, ticaret ve büyüme arasında başarılı bir arabulucu olarak saptanmıştır; Bu sonuç, Türkiye'deki döviz kuru politikalarının önemini artırmaktadır, Tüm bunlara ek olarak, Türkiye'de, merkez bankasının döviz kuru politikalarıyla çelişebilecek turizm gelişiminin ithalat bağımlılığı gerçeğini ortaya çıkarmıştır.

İkinci bölümde ise, petrol fiyatlarındaki değişikliklerin hizmet ticareti ve turizmin reel gelir büyümesi üzerindeki etkisinin incelenmesidir. 1960-2017 yılları arasındaki dönemi kullananarak zaman serileri analizi yapılmıştır. Elde edilen sonuçlar, turizm ve hizmet ticareti sektörlerinin Türkiye'de reel gelir büyümesi üzerindeki uzun vadeli etkilerini doğrulamaktadır. Turizm ve ticaret (hizmet ve imalat), gayri safi yurtiçi hasıla ile ölçülen uzun vadeli makroekonomik faaliyet performansı üzerinde olumlu etkiler yaratmaktadır. Diğer yandan, petrol fiyatları, Türkiye'nin reel gelir büyümesini olumsuz yönde etkilemektedir. Ayrıca, petrol fiyatlarının Türkiye'de dış ticaret, hizmet ticareti ve turizmin reel gelir büyümesi üzerindeki etkilerini olumsuz

yönde etkilediği bulunmuştur. Bu sonuç, dış ticaret, hizmet ticareti ve turizmin reel gelir üzerindeki önemli etkilerinin petrol fiyatlarındaki değişimlerden olumsuz etkilendiğini ortaya koymaktadır.

Üçüncü bölümde ise, panel data analizi kullanılarak Avrupa Birliği (AB) ülkelerinin reel gelir artışında hizmet ticareti ve turizmin rolünün araştırılmıştır. Elde edilen sonuçlar, turizmin ve ticaretin ekonomik büyüme üzerindeki uzun vadeli etkilerini doğrulamaktadır. Hizmet ticaretinin gelir düzeylerine etkisi esnek ve pozitif yönde olup, turizmin genişlemesi ve katsayılarının önemi ile ilgili olarak turizm yayılımının etkileri esnek değildir. Sonuçlar aynı zamanda panel ile zaman dizisi tahminleri arasında bir eşitlik göstermemektedir.

Anahtar Kelimeler: Turizm; Büyüme; Petrol Fiyatları; Hizmetler Ticareti; Avrupa Birliği; Türkiye.

To my Husband

(my Angel)

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I would like to say that my thesis was dedicated to my husband Ayer Altun and I would like to thank him forever. He never spared his support during his lifetime and was always there for me. I believe he'll always be there for me. I keep my promise to him and wish him to sleep in peace.

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LIST OF ABBREVIATIONS

ADF   Augmented Dickey-Fuller

DOLS   Dynamic Ordinary Least Squares

ECM   Error Correction Model

EU   European Union

EURO   European currency

GATS   The General Agreement on Trade in Services

GCF   Gross Capital Formation

GDP   Gross Domestic Product

ILG   Import-led growth hypothesis

IMF   The International Monetary Fund

IND   Industrial value added

IPS   Im, Pesaran and Shin

LLC   Levin, Lin and Chu

LSM   least squares method

M-W   Maddala and Wu

OECD   The Organisation for Economic Co-operation and Development

OLS   Ordinary Least Squares

PP   Phillips-Perron

PPP   Purchasing Power Parity

RER   Real Exchange Rates

SAM   The Social Accounting Matrix

TLG   Tourism-Led Growth Hypothesis

TOUR   Total Tourist Arrivals

TR	Trade Volume (exports plus imports in goods/services)
TRS	Services' Trade
TT	Total Tourist Number of Turkey
TURKSTAT	Turkish Statistic Institution
U.S.	United States
UNWTO	World Tourism Organization
VAR	Vector autoregressive model
VECM	Vector error correction model
WTO	World Trade Organization
ZA	Zivot and Andrews (1992) Unit Root Test

Chapter 1

INTRODUCTION

1.1 Introduction

The phenomenon of economic growth is one of the most important social and economic issues that both developed and developing countries are currently addressing, as they are among the most debated topics by the economists in every period. In this section, the concept of economic growth, theories and especially the interest in the work are aimed to be explained. The relationship between growth, tourism, tourism and trade is linked to international trade in order to create an infrastructure for work. In addition, it will explain which channels this relationship feeds on and will give information about the theories. Economic growth is basically defined as an increase in the production volume of an economy over time. A significant increase in the production volume of a country is the change in the (GDP) Gross Domestic Product.

In other words, the economic growth of an individual country means that GDP per member of the country is constantly increasing (Turan, 2008). The average growth rate and the annual growth rate are calculated in order to determine the extent to which economic growth in a country occurs. The average growth rate measures the increase in the real GDP over a certain period of time.

Economic growth is also an important issue in terms of developing countries as well as developing countries. However, while developed countries emphasize the economic growth, in other words, the change of real GDP in developing countries over the years attaches importance to the concept of economic development rather than the concept of economic growth. In addition to economic growth, the economic development includes economic and social as well as economic aspects such as reducing income imbalances in the society, reducing unemployment, and modernizing economic and social institutions (Seyidoğlu, 2006).

The understanding of the economic growth rate also exploits the curve of production opportunities. The curve of production possibilities gives the maximum point of the amount of production factor and current technology level in the country. Outward shifts in production possibilities are indicatives of the economic growth. These outward shifts can be achieved through increases in labor and capital stock, which will increase productivity and capacity utilization. In addition, production opportunities are influential in the outward slip, which may occur in the course of the curve and the importance that governments attach to infrastructure the investments in education, technology, and physical capital to enhance productivity (Seyidoglu, 2013).

Another concept related to economic growth is the economic development. This concept, which is often mixed in the literature, actually differs from the concept of economic growth. Economic development is more meaningful than economic growth, and it means that the economy grows, as well as the social, cultural and political development. Economic development encompasses a modernization of economic, social, cultural and political meaning as a whole.

When we look at the determinants of economic growth, our antagonism has three determinants. These are the capital accumulation. Capital accumulation is accepted as the basic dynamism of economic growth. The main condition for the development of a country is an investment. Investment depends on the increase in savings that will be achieved with high income. This is the way to get rid of the vicious cycle that is happening at this point to increase the capital accumulation. The second determinant of growth is technological progress. Technology is the whole of the information, organization, and techniques needed in production. Thanks to technology, more output can be obtained by using the same amount of input during production, labor saving and capital saving will be ensured. The final determinants include population and labor force growth. Population growth and the subsequent increase in the labor force are important stimuli that accelerate the economic growth.

Economic growth depends on various factors. In order to achieve economic growth or accelerate existing growth, it is necessary to make investments to increase the quality of capital, to take advantage of technological innovations and to increase the number of production factors.

1.2 Theories of Foreign Trade as a Source of Growth

The theory put forward by British economist David Ricardo (1772 - 1823) explains why countries trade with each other. If a country produces goods cheaper than others, it should specialize in the production of goods and import them from abroad by exporting them. If countries act in accordance with this basic principle, they use their scarce economic resources in the most economical way.

The Theory of Comparative Advantage clearly demonstrates the benefits of international specialization and division of labor (Hunt & Morgan, 1995). Today it is considered as a powerful theory that explains the benefits of foreign trade. Ricardo advanced this theory against Adam Smith's Theory of Absolute Advantage. Thus, the deficiencies of the Absolute Superiority Theory were eliminated and given more generality to it. In Absolute Superiority Theory, absolute costs are considered as the cause of foreign trade (Schumacher,2012). A country should be specialized in the production of which goods are cheaply produced. However, the Ricardo model shows that the important thing in international trade is not the absolute but comparative costs. Let's say that a country produces all the goods in less than others. According to the Adam Smith model, trade could not be made in this case. Ricardo, however, has shown that what is important is not the absolute but comparative costs. A country can produce all the goods cheaper. However, there is still the possibility to make profitable trade. Because the country's superiority in some goods may be higher than others. For example, U.S. engine textiles also get to produce with lower cost than Turkey. But while the production superiority in the engine is five times, its superiority in textile is only two times. In this case, for the United States, whether the allocation of resources engine quits textile production to Turkey, and which needs to import textiles from Turkey, it is a more rational way. In Ricardo's Comparative Advantage Model, only the labor factor is considered as a measure of production costs. The economists who came later completed these shortcomings of the theory and gave it a more realistic appearance. A very important interpretation of the theory was made by Theory of Factor Equipment (Heckscher-Ohlin). In this theory, the relative cost differences between countries are explained by the differences in the equipment they possess and the factors of capital factors. In other words, countries

which have more abundant labor, labor-intensive goods, countries with abundant capital, produce capital-intensive goods cheaper and become exporters of them. The Comparative Advantage Theory is a highly controversial issue for underdeveloped countries. It is agreed that underdeveloped countries should consider the comparative advantages not in a static but dynamic way. In other words, today labor is rich and they can produce labor-intensive goods in a less expensive way, but they should be able to organize industrialization policies in this way and become an advanced technology and industrial goods exporter in the future (Seyidoglu, 2013).

1.2.1 Theory of Absolute Advantage

The theory that Adam Smith proposed to explain the reason of foreign trade is the Theory of Absolute Advantage. According to Adam Smith, countries make foreign trade because they are more profitable than the closed economy. If a country manufactures a commodity at an absolute price less than the other, it should be specialized in the production of that goods, but should leave the production and export of the goods which have no absolute advantage to the countries that have superiority (Schumacher, 2012).

For example; Tourism is absolute advantage for Turkey. Because of, lower cost, cheap labor, historical and cultural wealth, Sea and Sand also nature beauties. Therefore, Turkey ranked 6th out of receiving international tourists according to UNWTO (2017).

1.2.2 Theory of Comparative Advantages

Although Adam Smith's theory of absolute supremacy has an important place in the theory of dental trade, it is not possible to explain international specialization with absolute superiorities. Because, if a country produces all the goods and/or services

including tourism lower than the other, what will happen? The answer to this question was given by David Ricardo in the theory of comparative advantage. According to Ricardo, there is no need to base international trade on absolute superiorities. For international trade, it is not that countries should produce some goods cheaply, that is, they have the absolute advantage in these goods. On the contrary, the important thing is the degree of superiority. A country should be specialized in those goods if it has a higher superiority in the production of goods compared to the other (Hunt & Morgan, 1995). In other words, according to Ricardo, the basis of international trade including tourism is not absolute but creates comparative advantages. Ricardo bases its foreign trade on comparative costs rather than international absolute cost differences. If the country is far superior to the other countries in the production of some goods (costs are low), why waste the resources by making production in areas where it is less superior. The best policy for this is that it specializes in areas where the countries concerned are most comparatively efficient, and that they can be relatively expensive to import from other countries. In this way, scarce resources are used in the most economical way and the welfare level reaches the maximum level (Seyidoglu, 2013).

1.2.3 Heckscher-Ohlin Theory

The Factor Equipment Theory, developed by the Swedish economists Eli Heckscher and Bertil Ohlin, emphasizes the difference in relative factor equipment and factor prices between countries in explaining foreign trade. According to this theory, in goods' or services' market (including trade and tourism sectors as well), with two goods or services, two countries and two product models are produced with fixed income according to scale, there are no transportation costs, production factors are used in production in fixed amounts, production functions of goods are the same in

every country (Seyidoglu, 2013). According to the theory, if a country has an abundant and cheap price to production factor, the country should be specialized in the production of the goods in which this factor is used. By exporting the goods it is specialized, it should import the goods which are disadvantageous in terms of quantity and price. The Heckscher-Ohlin Theory differs from Smith's and Ricardo's theories at two points: The first is that he uses capital as a second production factor, unlike Smith's and Ricardo's theories. Second, in this theory, the advantages of the countries in international trade conditions are shaped within the framework of the different factors that the countries have. Hecksher-Ohlin's theorem is important for Ricardo and Smith's analysis of the 'opportunity cost" approach because of the labor value theory they use in their analysis and the "labor cost" they use separately as capital (Seyidoglu, 2003). According to the opportunity cost approach, the production cost can be defined as i equal to the sum of the resources required to produce one unit of goods (Seyidoğlu, 2003). In the model of Smith and Ricardo, only the labor factor is taken into account. Because there is only one production factor used in production and all units of this factor are equivalent. In the Heckscher-Ohlin model, due to the increased opportunity cost, the production possibilities curve is concave. In Factor Equipment Theory, factor density is an important factor in the multiplicity of labor and capital amount of the country as well as the factor composition used in the production of goods. Because countries produce goods suitable for factor density and factor equipment enable countries to achieve competitive advantages by providing cost and price advantages (Bergstrand,1989). According to the theory of factor equipment, a country with abundant labor factor should be specialized in the production of goods in which labor is used, A country that possesses a large amount of capital factor should specialize in the production of

goods in which capital is used in its production, and export it through these goods (Seyidoglu, 2013).

There are many researches that examined empirical relationship between international trade and economic growth. This research has also measured it and it will be continued to be measured with export-led, import-led-growth and trade-led, hypotheses (Kaushal & Pathak, 2015; Katircioglu, 2009; Soukhakian, 2007a; 2007b). While in many countries, only export is a source of foreign trade, some countries only use imports. Developed countries are generally growing based on exports; eg. Germany. On the other hand, developing countries are growing based on imports, such as Cyprus and Turkey.

1.3 Theoretical Foundations of Tourism as Service Trade as Engine of Growth

International trade and international tourism are great major sources of foreign exchange for small as well as larger countries (Kaushal & Pathak, 2015; Leitao, 2011; Katircioglu, 2009) Today, developments in information and communication technology have led to a rapid increase in international trade in services. One of the reasons is the increase in the scope of the service of the goods entering foreign trade and another is that the new services are subject to international trade. Today, the export of services is an important part of world trade. The services cover a wide range of economic activities and there is a detailed classification by the world trade organization in this field. According to technology content, services are divided into information-based and traditional services. The information-based services in the first group are more oriented towards production. Developments in information technology require the use of services in increasing production of finished goods. These developments have eliminated the difficulty of carrying out the production and

consumption of some services in the same place and together. In addition, technological innovations have led to the introduction of new service products into foreign trade. In the future, services will become more international in nature. Traditionally, the entry of foreign firms into the national service industries has been largely restricted. In recent years, important initiatives have been initiated to liberalize trade in services. The main task of the World Trade Organization-"The General Agreement on Trade in Services" (GATS) is to work towards liberalizing international trade in services. Classical economists accepted services as inefficient activities. However, today services oriented towards production have become a precondition for development. Underdeveloped countries are trying to increase their development rate by encouraging direct foreign capital in the field of services. The privatization of the service industries and the liberalization of the markets have also increased the direct foreign capital investments for the production of services. Today, in spite of the increase in service density of production, having effective production services has become an important factor determining the competitiveness of both goods and service industries. As the service industries are increasingly relying on information technology, because they require more physical and human capital, rich countries are more specialized in commercial services. There are some problems in the application of the Theory of Heckscher-Ohlin. However, the validity of the Comparative Advantage Theory in this field is indisputable. Tourism has the most important place in the traditional international service trade. Tourism, which is one of the important sectors supporting industrialization, provides foreign exchange input to the country as well as the income and employment effects it creates. In fact, international tourism is a service area where the developed and underdeveloped

countries are trying to encourage intensely to increase foreign exchange inputs (Seyidoglu, 2013).

1.4 Theoretical Foundations of External Factors Impacting on Trade and Growth Nexus: International Prices and Exchange Rates

International prices and Exchange Rates are theoretical foundations of external factors impacting on Trade and Growth Nexus. Because of international prices and exchange rates impacts to trade, also trade effects the economic growth. International price is not only the price of the goods, also, the exchange rate is considered as international price (Sha, 2017; Sodeyfi, 2016; Katircioglu, 2009; Michailidis, 2008).

If the price of goods increases, exports are falling and the country is looking to import, and growth is expected to decrease. While the increase in exchange rates causes depreciation of TL, it increases exports, decreases imports, thus increasing the exchange rate to increases the growth. When oil prices increase, inflation in the country increases. The increase in inflation means that the country's competitiveness decreases. If inflation increases, interest rates increase and foreign exchange falls, so imports increase and growth may decline. However, in countries that are based on imports, the situation is the opposite (Katırcıoglu & Shaeri, 2018)

1.4.1 Flexible or Floating Exchange Rate Systems

Nowadays, flexible or floating exchange rate systems are being applied and the reasons of changes in exchange rates are among the main areas of interest of international monetary economy. The areas of interest of the international monetary economy are not only intended to explain exchange rate changes, but also explain the

relationship between variables such as exchange rates, general prices, interest rates, work level and national product. The main principle in the previous periods was to keep the exchange rates constant before the floating exchange rate applications were used (Westerfield, 1977). However, adjustments have been made at the end of long periods and under very difficult conditions and the exchange rate was tried to be maintained at certain levels. However, in many countries, exchange rates can change at any time, and these changes may be much more than expected according to normal trade flows. Even more interesting, a depreciation of the country's foreign trade balance is expected, while on the contrary, the value of the national currency can be increased (Dornbusch,1976). It is not surprising to see that the national currencies of countries with such excesses may be subject to depreciation in the foreign exchange markets: what factors and how we can explain the changes in exchange rates? The answer to this question is: it is also of great importance to predict future changes in exchange rates. The changes in the exchange rate have traditionally been tried to be explained by the theories that are based on trade currents and which predict the values in the long term. Whereas, in the new theories developed since the late 1960s, the issue is viewed as a mere financial event. Today, the sudden and often extreme measurements of exchange rates in exchange rates can explain the basic perspective of new theories. In the 1980s, most countries liberalized capital inflows in the international arena by removing restrictions on financial markets. When this development was supported by the rapid advances in communication technology, there were unprecedented increases in the volume of international capital flows. Today, international capital flows have reached far greater dimensions than trade flows. In such an environment, it is also natural for the main interest to shift from trade flows to capital flows in explaining exchange rate changes. The traditional

theories describing the changes in exchange rates are the theory of purchasing power parity with the approach of foreign trade flows. The monetary approach and the financial asset balance approach are included in the new or modern theories. The main difference between the old and new theories is the concepts of flow and stock variables. Flow variable is related to changes occurring within a certain period of time. Such as, annual, monthly or seasonal export, import, investment, production and consumption values. The values of such variables shall be specified together with the period of time they belong. When we look at the stock variable it is the current values or the amount of current ones. These amounts represent the accumulation or sum up to the beginning and are not related to change. Separation of stationary and current values is also important in explaining exchange rate formation as in other areas of the economy (Westerfield, 1977). Models that try to explain the exchange rate by foreign trade balance are based on current variables. This is the theory of purchasing power parity. The monetary approach, which includes changes in money and capital stock, and the portfolio balance approach are models based on stock variables (Seyidoglu, 2013).

1.4.2 International Trade and Purchasing Power Parity (PPP)

According to the foreign trade flows approach, the value of the national currency depends on the foreign trade flows. All factors affecting the country's imports and exports also affect the value of the country's money. Purchasing power parity (PPP) is based on the operation of the single price law in the international arena and establishes a relationship between exchange rates and internal and external prices (Sercu et al., 1995). According to the relative PPP theory, the expected changes in exchange rates are equal to the difference between domestic and external inflation rates. The PPP approach may not reflect the actual exchange rate changes in the

market due to the government's market interventions, unforeseen events and similar reasons. According to the monetary approach, a change in exchange rates is the result of changes in money demand and supply. While the demand for money is stable, the increasing supply of money causes the public to buy more foreign goods and securities. This causes the balance of payments and the depreciation of the national currency by the effects of the current account and the capital account. According to this approach, domestic and foreign securities are fully substitutable.

According to the portfolio balance model, investors form a portfolio of domestic and foreign securities and national currency according to their risk and return conditions. Domestic and foreign securities are not fully substitutable. Investors adjust their portfolios according to the risk and return rates of domestic and foreign securities and changes in interest rates. Accordingly, all variables affecting the domestic and foreign currency demand and the national currency demand also affect the exchange rate. Investors respond quickly by adjusting their portfolios quickly and in anticipation. However, the developments in the real sector take a long time. Therefore, short-term and severe changes in exchange rates due to portfolio adjustments in the short-term, PPP shows the exchange rate in the long-term, as well as lower rates of changes arising from the real sector. In this way, the rapid fluctuation of the exchange rates around long-term equilibrium values in the short term is seen as overshooting (Seyidoglu, 2013).

1.5 Aim of the Study

There is a lot of studies about source of growth and trade of growth area, also, researches done in the service and economic growth. Studies started about the relations between tourism and economic growth twenty years ago. On the other hand,

there is little work done to address these three issues in service, trade and growth. However, there is little or almost no study about service trade.

The aim of the study is to examine the theoretical and empirical relationship between service trade and economic growth. Another aim of this study is to measure the effect of growth in services trade and to determine the role of oil prices in this relationship. While there are many studies on foreign trade and tourism, international prices, oil prices and exchange rate, such as the effect of a study that does not measure the work.

We choosed Turkey, because Turkey is a growing country with tourism (Katircioglu, 2009). On the other hand, it has been fighting the current account deficit for a long year. Therefore, this slows down the exports. The change in exchange rates and oil prices affects the economy to a great extent.

We chosed to make comparisons, in addition to the country, and we compared them with Turkey. because Turkey is an applicant for EU membership and expects it for years. Hence it will be a contribution to the literature to compare the European union countries with turkey.

1.6 Structure of the Study

The paper is organized as follows; Introduction discusses the introductory path of the study and includes the aim of the Study. The second part discusses highlights review of Literature Studies in line with this study. This part includes Trade and Growth Nexus, Tourism and Growth Nexus and Trade and Tourism Nexus. The third part discusses first empirical chapter of The Role of Services Trade and Tourism in Growth: The Case of Turkey. The fourth part discusses empirical chapter of the

second empirical chapter of The Moderating Role of Oil Price Changes in the Effects of Services Trade and Tourism on Growth: The Case of Turkey. The fifth part discusses empirical chapter of the third empirical chapter of The Role of Services Trade and Tourism in Growth: Empirical Evidence from European Union. Last and sixth chapter is conclusion and policy implications.

Chapter 2

LITERATURE REVIEW

2.1 Empirical Studies on Trade-led Growth

The relationship between International trade and growth is also important in terms of empirical studies. The first empirical tests were based on the least squares (LSM) method and then developed with the aid of time series to examine the correlation between growth and international trade for many countries with methods such as Granger causality analysis, unit root tests, Johansen cointegration analysis, VAR and VECM models.

While some studies argue that international trade affects growth positively, some studies have emphasized that outward openness is measured by wrong methods. Another point that is examined in economics literature is whether the source of the growth is provided by international trade or whether the development of international trade is growing. Some of the results obtained in this framework are as follows:

Jung and Marshall (1985) found that export growth for Indonesia, Egypt, Costa Rica and Ecuador affected growth. Zhang and Zou (1995) found a positive relationship between imports and growth. Worz (2005) concluded that Export-Based Growth Hypothesis is valid for OECD countries and that imports are effective in the growth of other countries. According to Amiri and Gerdtham (2011), growth originated from export and import. For Herrerias and Orts (2009), in the long term, imports and

investments are having an impact on growth. Chang et al., (2014) surveyed four countries (Gauteng, Mpumalanga, North West and Western Cape); the growth in imports has been reached as the result. The relationship between imports and growth is found (El Alaoui, 2015). Also, authors (Al-Yousif, 1997; Ekanayake, 1999; Uddin et al., 2010) advocated export-based growth hypothesis and growth-based export hypothesis.

On the other hand, many authors have defended that growth hypothesis based exclusively on exports (Mohsen, 2015; Awokuse, 2002; Marin, 1992; Muhammad et al., 2011; Taghavi et al., 2012; Usman et al., 2012; Velnampy & Achchhuthan, 2013; Shihab et al., 2014) When we look at the research, it is possible to say that the growth is generally export-oriented.

2.2 Empirical Studies on Export-led Growth

When the literature, pertaining the empirical test, has been carried out very few researches seem to have been carried out. The relationship between exports and economic growth in the economic literature is one of the most discussed topics. The most common perception among economists is that of the positive effects of exports in the economic growth. Many developing countries in the last 30 years, before leaving growth based on import substitution policies, implemented to the export-oriented growth policy which was the same choice in 1980.

However, the direction of causality in the relationship between exports and economic growth than export growth may also be true as that may be to the growth of exports. In addition, the absence of a mutual causality between exports and economic growth or the absence of any causal relationship between them is possible

exports from that causality economic growth (Saatcioglu & Karaca, 2004; Krueger, 1978; Feder, 1982; Kavoussi, 1984; Marin, 1992; Michaely, 1977; Thornton, 1996; Balassa, 1978; Oxley, 1993).

On the other hand, Findlay (1984), Vernon (1996), and Segerstrom et al. (1990) concluded that there exists a unidirectional causality from exports to economic growth. If the two-way causality stated that several studies between economic growth and exports example is given Bhagwati (1988), Doraisami (1996), Ghartey (1993), Krugman and Helpman (1985), Marin and Kunst (1989), and Grossman and Helpman (1991), developing countries in this regard have done many studies; some of these studies include Korea (Awokuse, 2005). Mah (2005) in his study for Chinese exports identified a two-way causality between growth and exports.

Mallick (2002) studied short and while fixing the growth of exports in the long-term causality in India. Love and Chandra (2004) performed a study for exports and growth for India and Pakistan. Their findings showed that Granger causality is bi-directional, while Sri Lanka reached the conclusion "Economic growth is the most influential variable import".

2.3 Empirical studies on Import-led Growth

There is many studies that examined the empirical relationship between economic growth and international trade such as export-led, trade-led and import-led-growth hypotheses (Kaitibie et al., 2016; Soukhakian, 2007a; 2007b; Katircioglu, 2009). As McKinnon (1964) argued, international tourism brings in foreign currency that can be used to import intermediate and capital goods to produce goods and services, so this affects the economic growth. The results may be misleading in that the singular

focus of research on exports is the growth engine (Awokuse, 2008). Although there are many empirical evidences supporting export-based growth, empirical studies that support the import-oriented growth hypothesis are comparatively stronger. In particular cases, there is indication of reverse causality from GDP (gross domestic product) to import and exports. Important and valuable causal effects were found from imports to growth, suggesting import-led growth in Taiwan, Singapore, Philippines, Malaysia, Indonesia and India (Thangavelu & Rajaguru, 2004). In addition, the results of the study revealed that imports are wider and more effective on productivity increase in the long run. Import-led growth hypothesis (ILG) proposes that economic growth might be driven primarily by growth in imports. Endogenous growth models display that imports can be a channel for long-run growth because they provide national firms with access to needed intermediate issues and external technology (Coe & Helpman, 1995). Lawrence and Weinstein (1999) and Mazumdar (2000) Another argued that the growth in imports can serve as an intermediary for the transmission of external R & D information from wealthy (developed) to developing countries that increase growth.

2.4 Empirical Studies on Tourism-led Growth

Tourism is one of the sectors that are very sensitive to the economic conjuncture. Employment in many countries, including developing countries, make a significant contribution to the level of income, the reduction of internal and external debt, the balance of payments and, consequently, the welfare of the country's society (Marcouiller et al., 2004). Despite the wide range of studies on economic growth and trade relations, there are many empirical studies on the development of tourism and country economics which investigate the effects of tourism development on economic growth in the long run. This research shows generally that the tourism-led

growth hypothesis is supported in the relevant literature (Katircioglu 2009; Bahar 2006; Ongan & Demiroz, 2005; Dritsakis, 2004; Balaguar & Contavella-Jorda, 2002; Gunduz & Hatemi, 2005) while some other studies rejected the TLG hypothesis (Oh, 2005).

One of the most comprehensive issues in the economic literature is "fast and stable economic development (growth) and how to carry out the process" which are related. The limited foreign exchange which is reserved for developing countries makes it difficult to obtain financial resources from international financial markets of such countries. Export; energy, capital goods and intermediate goods, such as ensuring that scarce foreign exchange resources necessary for finance essential imports, is very important in the growth process of a country (Simsek & Kadilar, 2005). Literature studies have shown that trade is the engine of growth in many nations (Soukhakian, 2007a; 2007b; Katircioglu, 2009). The channels through which trade affects economic growth can then be summarized as follows:

Firstly, exports increase the competition, international markets increase the competition entry, allocation of significant advanced resources, technical information dissemination, better management and greater dimensional entrepreneurship brought by allowing externalities to the trust and the export sector, namely by increasing the overall efficiency like level in the economy, with the effect that allows the deployment of new technology, especially high quality, saving the acquisition of new skills, and therefore contributing to the formation of an effective price mechanism.

Secondly, by providing increased efficiency of foreign trade, as well as the acquisition and dissemination of new technologies increase the economic growth

rate. On the other hand, export provides the opportunity to benefit from the competitive advantage. It also revealed a variety of new opportunities both inside and outside. The reduction of labor costs, the increase in foreign demand for domestic goods, also stimulated new investment, thus making more investments in this sector are some examples of specialization and comparative advantage to benefit from this opportunity. By narrow domestic market economies, exports will gain the opportunity to make economies of scale in production.

Last important effect, exports are increasing the pressure to reduce foreign currency payments in foreign currency into the promotion. This allows the increase of imports of goods and services. Export growth also exist in countries such as the various inputs and capital goods, expanding the import capacity plays an important role in increasing domestic production and at the same time plays a driving role in economic growth (Simsek, 2003).

2.5 Empirical Studies on the Roles of International Prices on Trade, Tourism and Growth Nexus

The growth in real terms promotes the development of international tourists in international trade (both exports and imports). In addition, growth in international trade (both exports and imports) encourages the growth of international tourists to the country. Because, this study results can be justified by the fact that a growth in real output leads to a growth in R&D, promotion facilities and advertising and capacities in the tourism sector as well; therefore, this attracts more international tourists from the other countries. However, capital investments in sectors increase consequently growth in the trade industry, mostly in imports. In this case, the increase in tourism-oriented investments and tourism capacity also encourages the

growth and growth of foreign tourist arrivals. Also, business travels are an important part of the tourism industry in each country. According to Shan and Wilson (2001) and Kulendran and Wilson (1998), foreign tourists who come to a country for goods and services in general increase the image of that country; For this reason, they sought to increase commercial opportunities. These studies have shown that still there is a need to evaluate the relationship of international tourism with international trade and economic growth as some of the results of this research are dependable. According to Katırcıoglu (2009), international trade and international tourism are two main sources of international exchange for small countries as well as the bigger countries. Small countries are more dependent on tourism and commerce than larger countries, as their economies are based on only a few sectors. Particularly for export, services tend to signify the unique characteristics of small islands and, therefore, provide a basis for potential relative advantage (Mehmet & Tahiroglu, 2002). Katircioglu (2010) confirms the long term TLG hypothesis for Singapore as well.

There is a huge amount of researchers examining empirical relationship between economic growth and international trade (particularly, import-led growth and trade-led, export-led hypotheses), then this cannot be said about empirical interactions between economic growth and international tourism (Gunduz & Hatemi-J, 2005), and even between international trade and international tourism. Additionally, outcomes of the researchers made for the relationship between international tourism, international trade, and economic growth are still ineffective (Gunduz & Hatemi-J, 2005). Trade balance has a positive correlation with growth of the Liberian economy (Presley & Boqiang, 2018).

2.5.1 Studies with Exchange Rates

The empirical studies offer different results. Although one group of research found that a triggering growth at constant exchange rates. On the other hand, another group research defended the opposite. In addition, a third group of researchers has emerged with inconclusive results. Examples of studies done can be found below.

Depreciation in the value of the Liberian dollar causes real GDP to decrease while appreciation of the Liberian dollar tends to have no effect on real GDP in Liberia (Presley & Boqiang, 2018). Baxter and Stockman (1989) compared the growth between 1946-1984: the fixed exchange rate system and the generalized wave in 49 countries. The study concluded that exchange rate regulations had little effect on basic macroeconomic variables. Mundell (1995) compared the growth between 1947 and 1993: the fixed exchange rate system and the US, Japan, Canada, EC, other Europe under the generalized wave in the country. He found that fixed-rate periods achieved a better performance in all respects, including real growth per capital. However, simple comparison does not progress through an econometric analysis to discover important causal relationships.

During the period from 1960 to 1990, they conducted a descriptive analysis of the growth performance of 145 IMF member countries under alternative regimes and investigated a slightly higher GDP growth under a float (Ghosh et al., 1997). The study concluded that lower output growth under a peg should be the result of slow productivity growth, as investment rates contribute to two percent of GDP. Higher productivity growth under a float positively supported the growth of foreign trade. However, the evidence was not overwhelming. Surprisingly, growth emerged as the

highest (2%) under an intermediate regime, passing to a fluctuating regime led to a 1-point increase in three years.

Moreno (2000 & 2001) conducted two different studies for East-Asian countries (98 developing countries) between 1974 and 1999. They found a positive correlation with the results of the study, and in both studies, they found higher growth by 1.1 pp and 3 pp under a peg.

Levy-Yeyati and Sturzenegger (2002) examined a pooled regression applied to annual data by OLS, a sample of 183 countries for the years 1974-2000. As the choice of the regime of change is expected to be related to the dimension, the population variable controls the size of the economy. The study tested the effect of fixed latches, which explained the credibility of conventional latches and thus the need for strong loyalty under rigid latches. Moreover, if the exchange rate regime change is understood as a policy change, the relationship may be affected by other policy variables and this situation is not fully explained in their specifications. Findings for developing countries are likely to be associated with slower growth in a peg; However, the result is not valid for industrial countries. Because, there is a possible simultaneity between the exchange-rate regime and growth performance. Husain et al. (2004) examined 158 country samples for the 1970-999 period using geo-exchange rate regimes and it was found that neither the latches grew nor the flexible ratios did not support growth.

Garofalo (2005) examined utilized two-stage instrumental-variable forecast with heteroscedasticity stable standard errors and the estimation recommended that pegging slows growth rather than low growth suggests imposing a peg (Collins,

1996), Though, another study that fixed rates fostering slower growth has been reinforced by evidence from the countries of Latin America and Caribbean between 1987-1992.

2.5.2 Studies with Oil Prices

Studies have forecasted a limitless VAR model for Liberia. Results showed that an increase in the price of oil seems to stimulate Liberian GDP. Customer prices are found to also relate positively with economic growth in Liberia (Presley & Boqiang, 2018). Another research found that crude oil prices and the other descriptive variables are long-run factors of the stock prices of oil, transportation and technology companies. Stock prices of oil corporations are positively affected by crude oil prices to a much more than that of U.S. transportation stocks and technology (Shaeri & Katircioğlu, 2018). They found substantial impacts of oil fluctuations happened in national and world oil prices on the macroeconomic and financial factors in the case of 19 Organisation for Economic Co-operation and Development (OECD) countries (Memis & Kapusuzoglu, 2015). He analysed demand characteristics of oil in the case of Middle East countries by various computational approaches (Al-Abdulhadi, 2014). Another research analysed the status of the oil and gas manufacturing in the economy of Kazakhstan and emphasized the growing role of the oil and gas sector in country's economy (Jumadilova, 2012). Author searched the long-run nexus between equity returns of oil price fluctuations and oil corporations for the period 1979-1999. Author accomplished that oil price risk clarify the equity returns of oil corporations (Click, 2001). To give an example to the first studies in this field; they were between the first studies to examine the oil price compassion of equity returns in the U.S. over period 1958-1984 and they stated that oil prices do not significantly affect revenues (Chen et al., 1986)

Chapter 3

THE ROLE OF SERVICES TRADE AND TOURISM IN GROWTH: THE CASE OF TURKEY

3.1 Introduction

The growth of international trade relations is one of the issues which has been examined in the economic field for many years. Studies on the relationship in question increased considerably after the 1970's. Trade has been tested as the engine of growth in many literature studies; additionally, some validated export-led growth while some others validated import-led growth hypotheses. It is important to mention that results are still mixed and have not reached a consensus yet. Considerable number of studies has been done in the relevant literature proved the role of trade as engine of growth (Soukhakian, 2007; Hye, 2008; Omotor, 2008; Katircioglu, 2009; Hye, 2008; Duasa, 2011; Fatima et al., 2011; Ozkan, 2013; Kaushal & Pathak, 2015). There are studies confirming the investigation of the positive relationship between foreign trade and economic growth in the literature (Kravis, 1970; Riezman et al., 1995, Frankel & Romer, 1996; Al-Yousif, 1997; Dritsakis & Adamopoulos, 2004; Hameed et al., 2005; Onwuka, 2007; Katircioglu, 2009a; Katircioglu, 2009b; Katircioglu, 2009c; Ay et al., 2004; Utkulu & Özdemir, 2004; Erdoğan, 2006; Korkmaz & Çevik, 2010; Gül & Kamacı, 2012) as well as studies which say the opposite like Şimşek (2003). According to varying times and places mixed results were obtained (Henriques & Sadorsky, 1996; Akbar & Naqvi, 2000; Demirhan, 2005; Aktaş, 2009; Kıran & Güriş, 2011).

On the other hand, tourism industry has been an important study subject for researchers as well as a part of services trade. Empirical studies focused on examining the validity of this hypothesis in various countries which tourism is vital for macroeconomic wellbeing of countries (Grzinic et al., 2010).

The effects of trade and tourism on income level of countries have been explained and tested through trade-led growth and tourism led growth hypotheses over many years (Katircioglu, 2009a; 2009b; Omotor, 2008; Soukhakian, 2007a; 2007b). Too many studies are available in the relevant literature with this respect. Trade and tourism do not only contribute to aggregate income but also to financial sector by bringing foreign exchange to the country (Sodeyfi, 2017; Sodeyfi & Katircioglu, 2017).

Akkemik (2011) examined the significance of international tourism for the Turkish economy from two perspectives: Firstly by sectoral comparisons of GDP elasticities, and secondly by the calculation of the effect of the international tourism industry on output, GDP (value-added), and employment. The Social Accounting Matrix (SAM) for 1996 and 2002 were used for this impact analysis. The findings of this paper reveal a relatively modest contribution of the international tourist arrival with the economic growth in Turkey. The author believes though this can possibly be due to the partial leakage of overseas tourist spending out of the economy.

In the last decade, very rare studies have examined interactions among trade, tourism, and growth sometimes in trivariate system. Katircioglu (2009) examined trade-tourism-growth triangle in the case of Cyprus and found that growth in income do impact on the level of tourism and trade activity in Cyprus rather than the effects

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of trade and tourism on growth; thus, trade and tourism in Cyprus is output driven according to the findings of Katircioglu (2009). Furthermore, Kulendran and Wilson (1998) and Shan and Wilson (2001) also studied on the links between tourism and trade and document that this link deserves further attention from researchers.

In short, although considerable number of researches regarding the impacts of tourism and trade expansions on economic growth of countries are evaluated in the literature, the links between tourism and trade and the effects of this link on economic growth have not been considered sufficiently till the date. Thus, considering the link between and trade and tourism and even their joint effect on aggregate income would be an interesting research topic.

3.1.1 Aim of the Study

The purpose of this study is to investigate interactions between tourism, foreign trade, and economic growth in Turkey, which has a developing economy but suffers from persistent current account deficits over many years. Turkish Lira has faced considerable depreciation over long years owing to these deficits in the current account balance. Furthermore, current account deficits have been the major source of financial and economic crises in Turkey. Fortunately, Turkey managed to develop tourism sector which finances current account deficits considerably. During 2011-2016, Turkey ranked 6th out of receiving international tourists according to UNWTO (2017). In 2015, Turkey attracted 39.4 million international tourists and generated 26.6 million USD (UNWTO, 2017), which constituted 3.7 percent of gross national product (GDP). Again in 2015, exports and imports of goods and services constituted 28.0 percent and 30.8 percent of GDP respectively (World Bank, 2017). Table 1 presents summary statistics regarding trade, tourism, and growth figures in Turkey.

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The following section will describe the theoretical setting of the study; Section 3 will present data and methodology in brief; Section 4 will present the results; and Section 5 will conclude the study.

3.2 Theoretical Setting

This thesis suggests that services trade and tourism are engines of growth in the Turkish economy. The following functional relationship will be searched in this study in parallel to similar models in the relevant literature (Katircioglu, 2010a; 2010b; 2009a; 2009b; Soukhakian, 2007a; 2007b). It is expected that trade and tourism exert impacts on real income level of Turkey. Additionally, since exchange rates and foreign trade are the major determinants of services trade and tourism activities, they are added to Equation (1) as advised in the literature (Katircioglu, 2009a; Koccat, 2008). Furthermore, it is assumed that business activities are also affected from growth in income, tourism, and trade; thus, industrial value added is also added to Equation (1) as a proxy of business activities for control purposes. Therefore, the following econometric model is proposed in this study:

$$y_t = f\left(Tour^{\beta_1}, TR^{\beta_2}, TRS^{\beta_3}, IND^{\beta_4}, RER^{\beta_5}\right) \tag{1}$$

where y_t is real income in period t; Tour is total tourist arrivals, TR is trade volume (exports plus imports in goods/services), and TRS is services' trade, IND is industrial value added, and RER is real exchange rates. Equation (1) is then expressed in the logarithmic form in order to capture growth effects in the long term as (Katircioglu, 2017; Memis & Kapusuzoglu, 2015; Kapusuzoglu, 2014; Katircioglu, 2010a):

$$\ln y_t = \beta_0 + \beta_1 \ln Tour_t + \beta_2 \ln TR + \beta_3 \ln TRS_t + \beta_4 \ln IND_t + \beta_5 \ln RER_t + \varepsilon_t \tag{2}$$

where ε is an error term. The expected signs of β_1, β_2, β_3 and β_4 are positive in equation (2). By the econometrics theory the dependent variable in Equation (2) may not immediately adjust to its long-term equilibrium. Thus, in order to estimate the

speed of adjustment between the short and long-term, the following Error Correction Model (ECM) is estimated:

$$\Delta \ln y_t = \beta_0 + \sum_{i=1}^{n} \beta_1 \Delta \ln y_{t-j} + \sum_{i=0}^{n} \beta_2 \Delta \ln Tour_{t-j} + \sum_{i=0}^{n} \beta_3 \Delta \ln TR_{t-j}$$

$$+ \sum_{i=0}^{n} \beta_4 \Delta \ln TRS_{t-j} + \sum_{i=0}^{n} \beta_5 \Delta \ln IND_{t-j} + \sum_{i=0}^{n} \beta_6 \Delta \ln RER_{t-j} + \beta_7 \varepsilon_{t-1} + u_t \quad (3)$$

where Δ represents changes in y and its regressors; ε_{t-1} is the one period lagged error correction term (ECT) estimated from Equation (2). The ECT shows how fast the disequilibrium between the short- and long-run values of the dependent variable (y) is eliminated. The expected sign of the ECT coefficient is negative (Cetin & Ecevit, 2017; Katircioglu, 2017; Ozcan & Ari, 2017; Istaiteyeh, 2016; Katircioglu 2010).

3.3 Data and Methodology

3.3.1 Data Description

The data used in this paper are annual figures covering the period 1960-2015 and the variables of the study are real GDP (y) at constant 2010 prices in USD, total tourist arrivals as a proxy of tourism variable (Tour) (Katircioglu, 2009), trade volume (TR) as percent of GDP, services' trade (TRS) as percent of GDP, industrial value added (IND) as percent of GDP, and real exchange rates (RER) in Turkey. The data for tourism and RER variables have been gathered from the TURKSTAT (2017) while the rest has been gathered from World Bank (2017). The variable of RER has been added to Equation (1) in parallel to the literature studies as it is the major determinant of tourism and foreign trade sectors (Katircioglu, 2009). Table 1 presents summary statistics regarding trade, tourism, and growth figures in Turkey over the years

Table 1: Summary Statistics Regarding Trade, Tourism, and Growth Figures in Turkey.

Years	Tourist Arrivals	International tourism, receipts (current US$)	International tourism, expenditures (current US$)	Trade	Exports of goods and services (annual % growth)	Imports of goods and services (annual % growth)	GDP (current US$)	GDP growth (annual %)
1960					-9,3	-0,4	139,950	
1970	724,784	52	48		9,6	18,3	170,869	3,233
1980	1,057,364	326	104	17.089	28,7	56,0	687,892	-2,447
1990	5,397,748	3.225	520	30.942	3,151	33,109	150,676	9,266
2000	10,428,153	7,636	1,713	43.192	15,981	21,750	266,567	6,774
2001	11,276,529	10,067	1,738	50.756	3,935	-24,755	196,005	-5,697
2002	12,921,987	11,901	1,880	48.800	6,887	20,867	232,534	6,163
2003	13,701,417	13,203	2,113	47.032	6,855	23,522	303,005	5,265
2004	17,202,997	15,888	2,524	49.737	11,165	20,840	392,166	9,362
2005	20,522,622	20,760	3,563	47.206	7,894	12,173	482,979	8,401
2006	19,275,951	19,137	3,517	50.250	6,644	6,887	530,900	6,893
2007	23,017,078	21,662	4,254	49.807	7,264	10,662	647,139	4,668
2008	26,431,121	26,446	4,509	52.248	2,742	-4,129	730,325	0,658
2009	27,314,205	26,331	5,061	47.738	-5,035	-14,297	614,569	-4,825
2010	28,510,848	26,318	5,817	47.968	3,407	20,702	731,144	9,156
2011	31,324,528	30,302	5,372	56.624	7,877	10,675	774,775	8,772
2012	31,342,464	31,566	4,585	57.754	16,314	-0,394	788,862	2,127
2013	33,827,474	35,037	5,253	57.814	-0,210	9,006	823,256	4,192
2014	35,850,286	37,371	5,475	59.920	7,441	-0,278	798,781	3,020
2015	35,592,160	31,464	5,698	50.756	-0,876	0,209	717,879	3,971

Source: The World Bank,TÜİK

3.3.2 Methodology

This research study searches interactions among tourism, trade, and growth in the case of Turkey. Time series analysis has been adapted to forecast these interactions. Prior to econometric estimations and as a first step, unit root tests of Augmented Dickey-Fuller (ADF) (Dickey, & Wayne, 1987) and Phillips-Perron (PP) (Phillips, & Perron, 1988) approaches have been carried out to investigate the stationary nature of series under consideration. In addition to ADF and PP unit root tests, unit root tests of the Zivot, Eric, and Andrews, Donald, W.K. (ZA) (1992) approach have been also adapted in this study which allow to consider one structural break in the series. This is due to the reason that series of this study exhibit break points as can be seen in Table 1. This will enable us to compare the results of ADF and PP approaches with ZA (1992) approach.

In the next step, the Johansen cointegration tests (Johansen & Juselius, 1990) have been adapted to confirm the existence of the cointegrating vector in Equation (2) of the present study. In econometrics, it is essential to search for cointegration vector in Equation (2) of this study in the case where series are non-stationary (Cetin & Ecevit, 2017; Istaiteyeh, 2016; Katircioglu, 2009b). In the third step, equations (2) and (3) have been estimated respectively for the long-run and short-run coefficients in addition to the ECT term in Equation (3); these estimations have been done again through the Johansen methodology. And finally, some further tests such as Granger causality tests through the block exogeneity approach will be also carried out in this study for further support of earlier findings in this study. It would be worth of noting that details of these standard econometric approaches have not been provided in

details in this article due to the reason that they are available and described in the related econometric theories and related textbooks[1].

3.4 Results and Discussions

Unit root tests were performed to check out stationary of the series. They were done for both level and first differences for all three variables. As it was previously indicated, ADF, PP and tests were used for unit root process. First, the results of ADF and PP tests are presented in Table 2.

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[1] For further details of these approaches, please refer to Gujarati , Damodar N., 2003, and Katircioglu, 2009b.

Table 2: ADF and PP Tests for Unit Root

Statistics (Level)	ln y	Lag	ln Tour	Lag	ln TR	lag	ln TRS	Lag	ln IND	lag	ln RER	lag
τ_T (ADF)	-3.16	(0)	-2.01	(0)	-2.61	(1)	-2.51	(0)	**-1.74**	**(0)**	-1.66	(0)
τ_μ (ADF)	-0.40	(0)	-0.28	(0)	-1.22	(0)	-1.77	(0)	-2.04	(0)	-1.57	(0)
τ (ADF)	6.06	(0)	4.58	(0)	1.10	(0)	0.09	(0)	0.37	(0)	-0.38	(0)
τ_T (PP)	-3.29***	(1)	-2.15	(2)	-2.32	(1)	-2.67	(3)	-1.66	(1)	-1.77	(3)
τ_μ (PP)	-0.37	(4)	-0.28	(1)	-1.23	(3)	-1.98	(2)	-2.00	(1)	-1.76	(3)
τ (PP)	7.49	(4)	4.58	(0)	-1.13	(4)	0.21	(6)	0.37	(0)	-0.43	(3)
Statistics (First Difference)	Δln gdp	Lag	Δln Tour	lag	Δln TR	lag	Δln TRS	lag	Δln IND	lag	Δln RER	lag
τ_T (ADF)	-6.27*	(0)	-6.15*	(0)	-4.57**	(1)	-5.60**	(0)	-7.30*	(0)	-6.21*	(0)
τ_μ (ADF)	-6.36*	(0)	-6.24*	(0)	-4.59**	(1)	-3.46***	(5)	-6.95*	(0)	-6.08*	(0)
τ (ADF)	-3.86*	(0)	-1.09*	(3)	-4.35**	(1)	-5.73*	(0)	-7.00*	(0)	-6.16*	(0)
τ_T (PP)	-6.60*	(5)	-6.16*	(1)	-5.63**	(8)	-5.74**	(6)	-7.91*	(5)	-6.21*	(2)
τ_μ (PP)	-6.52*	(4)	-6.24*	(1)	-5.47**	(7)	-5.81*	(6)	-6.95*	(0)	-6.12*	(3)
τ (PP)	-3.92*	(4)	-4.48*	(3)	-5.17*	(4)	-5.89*	(6)	-7.02*	(1)	-6.19*	(3)

*Source: Own created in Eviews10. Note: y represents gross domestic product of Turkey; TRS is travel services; TR is tradeoff Turkey; IND is industrial value added; RER is exchange rate and finally, TT is total tourist number of Turkey. All of the series are at their natural logarithms. τ_T represents the most general model with a drift and trend; τ_μ is the model with a drift and without trend; τ is the most restricted model without a drift and trend. Numbers in brackets are lag lengths used in ADF test (as determined by AIC set to maximum 3) to remove serial correlation in the residuals. When using PP test, numbers in brackets represent Newey-West Band with (as determined by Bartlett-Kernel). Both in ADF and PP tests, unit root tests were performed from the most general to the least specific model by eliminating trend and intercept across the models (See Enders, 1995: 254-255). *, ** and *** denote rejection of the null hypothesis at the 1%, 5% and 10% levelsrespectively.*

Table 2 gives ADF and PP unit-root test results for the variables under consideration. Real GDP, travel services, trade of Turkey, Industrial value and total tourist numbers variables are non-stationary at their levels but stationary at their first differences. Therefore, *y*, *TRS, TR, IND, RER and TT* are said to be integrated of order one, I (1). Table 3 shows the results of Zivot and Andrews (1992) unit root test allowing one structural break in the series; it is seen that results from ADF and PP tests are confirmed by ZA (1992) unit root tests.

Table 3: Zivot and Andrews (1992) Unit Root Test

	Statistics (Level)			Statistics (First Difference)			
	ZA_B	ZA_T	ZA_I	ZA_B	ZA_T	ZA_I	Conclusion
lny	3.964	-4.446	-3.478	−5.139	-5.019*	−6.356*	I (1)
Break Year	1984	1994	1999	1989	1987	2003	
Lag Length	0	3	0	3	3	0	
lnTour	-3.385	-2.530	-3.455	-7.545*	-7.003*	−7.671*	I (1)
Break Year	1983	1993	1987	1983	1985	1983	
Lag Length	0	0	0	0	0	0	
lnTR	-4.372	-4.693	-5.130	-7.631*	-7.374*	−8.478*	I (1)
Break Year	1988	1985	1982	1992	1991	1986	
Lag Length	1	1	1	4	4	4	
lnTRS	-4.615	-3.250	-4.266	-5.283	-5.158*	−5.341*	I (1)
Break Year	1987	1983	1981	2000	2004	1987	
Lag Length	2	0	0	3	3	3	
lnIND	−5.632*	−4.384	−3.982	-7.737*	-7.455*	−7.721*	I (1)
Break Year	1986	1990	1986	1989	2003	1990	
Lag Length	0	0	0	0	0	0	
lnRER	-	-3.736	-	-7.027*	-6.520*	−6.644*	I (1)
Break Year	-	1984	-	1985	2006	1986	
Lag Length	-	0	-	0	0	0	

Source: Own created in Eviews10.
*Notes: y represents gross domestic product of Turkey; TRS is travel services; TR is tradeoff Turkey; IND is industrial value added; RER is exchange rate and finally, Tour is total tourist number of Turkey. All of the series are at their natural logarithms. ZA_B represents the model with a break in both the trend and intercept; ZA_T is the model with a break in the trend; ZA_I is the model with a break in the intercept. *, denote the rejection of the null hypothesis at the 1 percent levels.*

If summarized, unit root tests of this study reveal that all of the variables, y, IND, RER,TR, TRS and TT possess I (1) property where they are non-stationary at their levels but stationary at their first differences.

Table 4: Johansen Cointegration Trace Test

Hypothesized		Trace	5 Percent	1 Percent
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Critical Value
None **	0.705162	139.2366	94.15	103.18
At most 1 **	0.604964	91.60478	68.52	76.07
At most 2 **	0.573889	55.38244	47.21	54.46
At most 3	0.336986	22.11324	29.68	35.65
At most 4	0.144432	6.085854	15.41	20.04
At most 5	5.82E-05	0.002269	3.76	6.65

*Source: Own created in Eviews10. Trace test indicates 3 cointegrating equation(s) at both 5% and 1% levels *(**) denotes rejection of the hypothesis at the 5%(1%) level.*

Since our series are integrated of order one and they are non-stationary at levels, cointegration test is needed to confirm relationship in Equation (1). Table 4 shows results of the Johansen Co-integration test, which can be only used for those non-stationary variables and which are integrated of the same order. In this study, all six variables were found as I (1). In our proposed model, dependent variable is y while TRS, RER, IND and Tour are independent variables. Test results are shown in Table 4. According to test results, trace statistics in the first hypothesis are greater than critical value at alpha 5 percent; therefore, the first null hypothesis can be rejected at this level, which suggest that there is at least one co-integrating vector, and therefore a long run relationship could be inferred between y, and its explanatory variables of IND, RER, TR, TRS and Tour in Turkey. Confirming a long-term relationship in Equation (1), in the next stage, long run coefficients and ECM regressions for short run coefficients plus error correction term should be estimated. These are provided in Table 5 and 6 respectively.

Table 5: Long Run Model

Dependent Variable	Independent Variable					
lny	lnTour	lnTR	lnTRS	lnIND	lnRER	Intercept
	0.433	0.092	0.296	1.337	0.267	-24.759
	(6.116)[*]	(0.632)	(2.909)[*]	(5.517)[*]	(1.678)	(0.000)

Source: Own created in Eviews10.

*Notes: Numbers in parentheses are prob. values of t-statistics in each model. *, **, and *** denote statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively.*

Table 6: Short Run Model

Dependent Variable: lny			
Independent Variable	Coefficient	Standard Error	t-statistics
$\hat{u}_{t-1}$	-0.411	0.156	-2.621*
Δlny_{t-1}	-0.551	0.219	-2.517*
Δlny_{t-2}	-0.627	0.210	-2.981*
Δlny_{t-3}	-0.309	0.216	-1.425
ΔlnTour			
$\Delta lnTour_{t-1}$	-0.269	0.094	-2.866*
$\Delta lnTour_{t-2}$	-0.100	0.078	-1.273
$\Delta lnTour_{t-3}$	0.014	0.073	0.201
ΔlnTR			
$\Delta lnTR_{t-1}$	0.250	0.086	2.897*
$\Delta lnTR_{t-2}$	0.211	0.081	2.613*
$\Delta lnTR_{t-3}$	0.242	0.102	2.366*
ΔlnTRS			
$\Delta lnTRS_{t-1}$	0.217	0.069	3.122*
$\Delta lnTRS_{t-2}$	0.049	0.047	1.029
$\Delta lnTRS_{t-3}$	-0.016	0.061	-0.265
ΔlnIND			
$\Delta lnIND_{t-1}$	0.956	0.259	3.690*
$\Delta lnIND_{t-2}$	0.505	0.205	2.459*
$\Delta lnIND_{t-3}$	0.002	0.011	0.799
ΔlnRER			
$\Delta lnRER_{t-1}$	-0.406	0.110	-3.687*
$\Delta lnRER_{t-2}$	-0.433	0.111	-3.873*
$\Delta lnRER_{t-3}$	-0.366	0.137	-2.658*
Intercept	0.098	0.020	4.749*

R-squared	0.710303	
Adj. R-squared	0.386524	
Sum sq. resids	0.018452	
S.E. equation	0.032946	
F-statistic	2.193788	
Log likelihood	88.16376	
Akaike AIC	-3.684528	
Schwarz SC	-2.813761	
Mean dependent	0.037979	
S.D. dependent	0.042063	
Determinant resid covariance		1.58
Log likelihood		358.151
Akaike information criterion		-12.548
Schwarz criterion		-7.062

Source: Own created in Eviews 10

Table 5 shows that the long run coefficients of independent variables are inelastic but positive and statistically significant for growth variable. Any change in trade, tourism, and services trade will exert positively significant effects on real income growth in Turkey. As Table 6 shows, error correction term is -0.411as statistically and predictable significant. The ECT denotes that 41.1 percent of any discrepancy between long run and short run values of real income is eliminated every year through the channels of tourism and trade sectors. Table 6 shows that tourism and trade variables exert some statistically significant effects at various lag levels of the short term.

Table 7: Granger causality test.

Hypothesis	Chi-square *P*-value	Decision
lnIND does not cause lny	0.124	Fail to Reject
lny does not cause lnIND	0.761	Fail to Reject
lnRER does not cause lny	0.839	Fail to Reject
lny does not cause lnRER	1.309	Fail to Reject
lnTR does not cause lny	4.584	reject
lny does not cause lnTR	1.651	Fail to reject
lnTRS does not cause lny	0.127	Fail to reject
lny does not cause lnTRS	3.454	Reject
lnTour does not cause lny	3.932	Reject
lny does not cause lnTour	1.003	Fail to Reject
lnRER does not cause lnIND	5.457	Reject
lnIND does not cause lnRER	0.019	Fail to reject
lnTR does not cause lnIND	0.039	Fail to reject
lnIND does not cause lnTR	1.008	Fail to reject
lnTRS does not cause lnIND	0.059	Fail to reject
lnIND does not cause lnTRS	0.331	Fail to reject
lnTour does not cause lnIND	0.744	Fail to reject
lnIND does not cause lnTour	1.405	Fail to reject
lnTR does not cause lnRER	1.660	Fail to reject
lnRER does not cause lnTR	0.003	Fail to reject
lnTRS does not cause lnRER	10.074	Reject
lnRER does not cause lnTRS	0.076	Fail to reject
lnTour does not cause lnRER	2.266	Fail to reject
lnRER does not cause lnTour	5.209	Reject
lnTRS does not cause lnTR	0.095	Fail to reject
lnTR does not cause lnTRS	1.419	Fail to reject
lnTour does not cause lnTR	0.590	Fail to reject
lnTR does not cause lnTour	9.720	Reject
lnTour does not cause lnTRS	3.580	Reject
lnTRS does not cause lnTour	2.287	Fail to reject

Source: Own created in Eviews10.
Note: H0 = There exists no Causality; H1= There exists Causality.

Finally, Granger causality tests under the Block exogeneity approach is carried out to investigate if causality exists between real income and its regressors. Table 7 reveals various causalities with this respect. It is observed that they are only trade and tourism variables that cause changes in real income; thus, unidirectional causality that runs from foreign trade and tourism to real income has been confirmed in this

study. Services trade in Turkey is output driven due to the fact that unidirectional causality that runs from income to services trade is confirmed in this study. It is important to see that tourism sector in Turkey is also foreign trade driven; thus, any development in foreign trade would lead to further developments in tourism sector. This raises important implications for policy makers. Table 7 shows that real exchange rates do also impact on industrial activity and tourism sectors.

3.5 Conclusion

This study has examined the role of services trade and tourism in economic growth in the case of Turkey. Results of this study confirm the long-term impacts of tourism and services trade sectors on real income growth in Turkey. Tourism and trade (both services and manufacturing) exerts inelastic but positively significant effects on the long-term performance of macroeconomic activity as measured by gross domestic product. Real income in Turkey reacts towards its long-term equilibrium path significantly by 41.1 percent every year through tourism and trade sectors. The short-term effects of tourism and trade sectors are again inelastic but have been found significant at various lag structures. Finally, Granger causality tests confirm unidirectional causalities (1) that run from trade and tourism sectors to real income and (2) that run from real income to services trade. It has been found that real exchange rates are significant and important for tourism and industry sectors. This raises the importance of pricing policy in these two sectors. Granger causality results of this study also confirmed that foreign trade plays a major role in promoting tourism sector. This shows that import sector is important for promoting tourism sector in the case of Turkey. Thus, any restriction in Turkey might damage a development in tourism sector. Policy makers in Turkey need to be aware of the reality that tourism, trade, and growth are well integrated and linked to each other.

And exchange rates are successful mediator among these aggregates; thus, not only exchange rate policies but interest rate policy by the Turkish Central Bank will be of major importance for tourism and trade sectors. Secondly, results of this study have shown that tourism in Turkey has import dependency; this might be also a risky situation for tourism sector since the Turkish governments pay attention to control current account deficits by encouraging exports but restricting importing activities. Thus, it is important that tourism investments need to be done more by domestic entrepreneurs and should be export oriented. As further researches, similar studies maybe done for the case of the different tourist destination countries for comparison determinations.

Chapter 4

THE MODERATING ROLE OF OIL PRICE CHANGES IN THE EFFECTS OF SERVICES TRADE AND TOURISM ON GROWTH: THE CASE OF TURKEY

4.1 Introduction

The role of energy and oil markets in the macro economies have been well established in the relevant literature. Studies have shown that energy and/or oil price changes significantly impact for macroeconomic performance (Katircioglu et al., 2015; Anoruo & Elike, 2009). The link of energy and/or oil prices has been also linked to the sectors of economies and it has been found that energy and/oil prices have significant influences on economic sub-sectors (Memis & Kapusuzoglu, 2015; Gokmenoglu et al., 2016). However, results in the previous studies are of mixed findings as some studies find positive effects of energy and oil prices while some other finds negative effects. Although the links between oil prices and macroeconomic performance have been well examined in the literature, interactions between energy/oil prices and international trade and/or tourism have not been well established till the date to the best of the authors' knowledge. Furthermore, previous works have examined direct effects of energy/oil prices; indirect effects of these prices need attention from researchers.

International trade has been tested as engine of growth in many literature studies where some studies confirmed the trade-led growth hypotheses while some others confirmed export-led and import-led growth hypotheses (Duasa, 2011; Katircioglu, 2009; Onwuka, 2007). However, results are still mixed and have not reached a consensus yet. Considerable number of studies has been done in the relevant literature proving the role of trade as engine of growth (Soukhakian, 2007; Hye, 2008; Omotor, 2008; Katircioglu, 2009; Hye, 2008; Duasa, 2011; Fatima et al., 2011; Ozkan, 2013; Kaushal & Pathak, 2015). There are studies confirming the investigation of the positive relationship between foreign trade and economic growth in the literature (Kravis, 1970; Riezman et al., 1995, Frankel & Romer, 1996; Al-Yousif, 1997; Dritsakis & Adamopoulos, 2004; Hameed et al., 2005; Onwuka, 2007; Katircioglu, 2009a; Katircioglu, 2009b; Katircioglu, 2009c) as well as studies which say the opposite like Simsek (2003). Owing to different methodological approaches, mixed results were obtained (Henriques & Sadorsky, 1996; Akbar & Naqvi, 2000).

As a part of international trade in services, the role of international tourism has been also investigated under the tourism-led growth hypotheses in the last two decades. Like in the field of international trade studies, there are studies which confirmed the validity of tourism-led growth hypothesis for nations (Shahzad et al., 2017; Katircioglu, 2010; Gunduz & Hatemi-J, 2005; Dristakis, 2004; Balaguer & Cantavella-Jorda, 2002) while some others did not validate it (Katircioglu, 2009a; 2009b). Many studies argue that tourism is vital for macroeconomic wellbeing of countries (Munandar, 2017; Perkov et al., 2016; Grzinic et al., 2010). This is mainly due to the fact that like foreign trade tourism brings also foreign exchange to the country (Sodeyfi, 2017; Sodeyfi & Katircioglu, 2017).

On the other hand, as mentioned earlier the effects of energy sector and oil prices have been well established in the literature; it has been noted that oil prices significantly impact on not only output performance but also economic sectors of countries (Katircioglu et al., 2018a; 2018b; 2015; Shaeri & Katircioglu, 2018; Sodeyfi & Katircioglu, 2016; Shaeri et al., 2016). Al-Abdulhadi (2014) and Jumadilova (2012) finds that demand for oil products has significant effects on the performance of the economies while Anoruo & Elike (2009) find that high oil prices impact on economic growth rates of countries. Gokmenoglu et al. (2016) find that oil dependency of countries significantly affect also agricultural value added. Oil prices have been also linked to stock and financial markets; Memis & Kapusuzoglu (2015) prove that oil prices significantly affect the performance of stock markets. All these studies prove that oil markets are significant contributors to economic performance of countries. On the other hand, there are also newer studies which linked tourism and trade to energy sector where they find significant contributions of trade and tourism to energy demand of countries (Katircioglu et al., 2016; 2014) which would in turn affect energy and oil prices (Al-Abdulhadi, 2014).

In the last decade, not only very rare studies have examined interactions among trade, tourism, and growth sometimes in trivariate system but also there isn't any study focusing on the role of oil prices to the effects of tourism and trade on aggregate income to the best of our knowledge. Katircioglu (2009) examines trade-tourism-growth triangle in the case of Cyprus and finds that growth in income do impact on the level of tourism and trade activity in Cyprus rather than the effects of trade and tourism on growth; thus, trade and tourism in Cyprus is output driven according to the findings of Katircioglu (2009). Furthermore, Kulendran & Wilson

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(1998) and Shan & Wilson (2001) also study on the links between tourism and trade and document that this link deserves further attention from researchers.

In short, although considerable number of researches regarding the impacts of tourism and trade expansions on economic growth of countries are evaluated in the literature, the links between oil prices and tourism/trade and the effects of such link on economic growth have not been considered yet. Thus, searching such a link would be a new and interesting research area.

4.1.1 Purpose of the Study

The aim of this study is to investigate interactions between tourism and oil prices, trade (of goods and services), and output performance in Turkey, which has a developing economy but suffers from persistent current account deficits over many years. Turkish Lira faces considerable depreciation over long years owing to these deficits in the current account balance. Furthermore, current account deficits have been major source of financial and economic crises in Turkey. Fortunately, Turkey managed to develop tourism sector which finances current account deficits considerably. During 2011-2016, Turkey ranked No. 6th out of receiving international tourists and No. 8th in 2017 according to UNWTO (2018). In 2017, Turkey attracted 37.6 million international tourists and generated well above 27 million USD (UNWTO, 2018), which constituted almost 4 percent of gross national product (GDP). Again in 2017, exports and imports of goods and services constituted 28.0 percent and 30.8 percent of GDP respectively (World Bank, 2018). In the last decade, Turkey started to switch from manufacturing based income generation activities to services trade (including tourism) based income generating activities. Mainly, tourism is the major economic activity in Turkey for settling current account

deficits especially in the last two decades. To the best of our knowledge, yet, this study is the first of its kind as far as (1) augmenting the moderating role of oil price changes into the tourism, trade, and growth nexus, and (2) adapting this new conceptual model firstly for the case of Turkey.

The following section will describe the theoretical setting of the study; section 3 will present data and methodology in brief; section 4 will present the results; and section 5 will conclude the study.

4.2 Theoretical Setting

This article suggests that services trade and tourism are engines of growth in the Turkish economy but oil price changes significantly influence these relationships. Thus, this study aims to search (1) the direct effects of oil prices on real income in Turkey and (2) the moderating role of oil prices in the tourism/trade and real income nexus. These two investigations will be done by modeling (1) main effects and (2) interaction effects. The following functional relationships will be then searched in this study in parallel to similar models in the relevant literature (Katircioglu, 2010a; 2010b; 2009a; 2009b). It is expected that trade and tourism exert impacts on real income level of Turkey and oil prices have a role in this impact. Additionally, since exchange rates and foreign trade are the major determinants of services trade and tourism activities, they are added to empirical estimations as advised in the literature (Katircioglu, 2009a; Koccat, Halil 2008). Furthermore, model estimations will be done under Cobb-Douglas framework by adding capital and labor aggregates in parallel to many studies in the literature (Katircioglu et al., 2014). Therefore, two separate econometric models are proposed in this study: (1) Main effects' model and (2) interaction effects's model:

$$\ln GDP = f(\ln GCF, \ln Labor, \ln Trade, \ln TRS, \ln Tour, \ln RER, \ln Oil) \qquad (1)$$

Equation (1) presents functional relationship in the main effects' model where the direct effects of regressors including oil prices will be estimated. The variable GDP_t is gross domestic product in period t; GCF is gross capital formation, labor is overall labor force, Trade is foreign trade volume (goods and services), TRS is trade in services, Tour is tourism proxy, RER is real exchange rates, and Oil stands for oil prices. Equation (1) will be estimated in the logarithmic form in order to capture growth effects in the long term (Katircioglu, 2017; Katircioglu, 2010a):

Secondly, the interaction effects' model will be estimated again in the logarithmic form in order to investigate moderating roles of oil prices in the nexus of tourism/trade and real income growth as presented in equation (2):

$$
\begin{aligned}
\ln GDP = f\,(&\ln GCF, \ln Labor, \ln Trade, \ln TRS, \ln Tour, \ln RER, \ln Oil \\
&+ \ln Oil \times \ln Trade + \ln oil \times \ln TRS + \ln Oil \times \ln Tour)
\end{aligned} \tag{2}
$$

Equation (2) shows the functional relationship in interaction effects' model. Three interaction terms are proposed in order to examine moderating roles of oil prices in (1) trade-growth, (2) trade in services-growth, and (3) tourism-growth nexuses in parallel to the previous studies (Katircioglu & Taspinar, 2017). Therefore, functional relationships in equations (1) and (2) can be summarized in Figure 1:
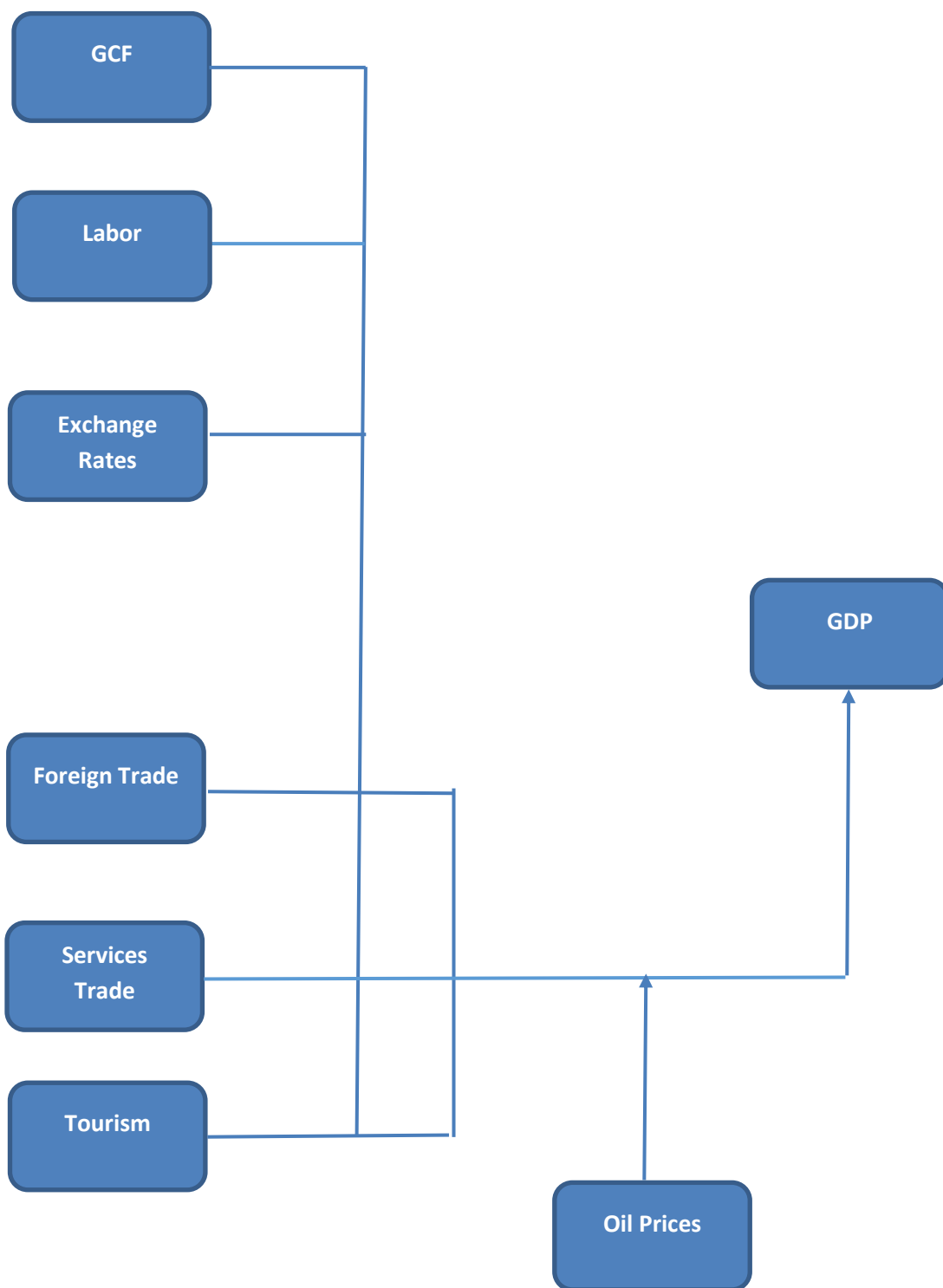
Figure 1: Moderating Role of Oil Prices in the Trade, Tourism, and Growth Nexus
Source: Own created.

Again equations (1) and (2) can be then written double logarithmic regression forms as the followings:

Main Effects' Model:

$$\ln GDP_t = \beta_0 + \beta_1 \ln GCF_t + \beta_2 \ln Labor + \beta_3 \ln Trade_t + \beta_4 \ln TRS_t$$

$$+ \beta_5 \ln Tour_t + \beta_5 \ln RER_t + \beta_5 \ln Oil_t + \varepsilon_t \quad (3)$$

Interaction Effects' Model:

$$\ln GDP_t = \beta_0 + \beta_1 \ln GCF_t + \beta_2 \ln Labor + \beta_3 \ln Trade_t + \beta_4 \ln TRS_t$$

$$+ \beta_5 \ln Tour_t + \beta_6 \ln RER_t + \beta_7 \ln Oil_t$$

$$+ \beta_8 \ln Oil \times \ln Trade_t + \beta_5 \ln Oil \times \ln TRS_t + \beta_5 \ln Oil \times \ln Tour_t + \varepsilon_t \quad (4)$$

where ε is an error term. The expected signs of all coefficients except that of oil are positive in equations (1) and (2). By the econometrics theory the dependent variables in equations (1) and (2) may not immediately adjust to their long term equilibrium levels. Thus, in order to estimate the speed of adjustment between the short- and long-term values of dependent variables, the following error correction model (ECM) will be estimated:

$$\Delta \ln GDP_t = \beta_0 + \sum_{i=1}^{n} \beta_1 \Delta \ln GDP_{t-j} + \sum_{i=0}^{n} \beta_2 \Delta \ln GCF_{t-j} + \sum_{i=0}^{n} \beta_3 \Delta \ln Labor_{t-j}$$

$$+ \sum_{i=0}^{n} \beta_4 \Delta \ln Trade_{t-j} + \sum_{i=0}^{n} \beta_5 \Delta \ln TRS_{t-j} + \sum_{i=0}^{n} \beta_6 \Delta \ln Tour_{t-j} + \sum_{i=0}^{n} \beta_7 \Delta \ln RER_{t-j}$$

$$+ \sum_{i=0}^{n} \beta_8 \Delta \ln Oil_{t-j} + \beta_9 \varepsilon_{t-1} + u_t \quad (5)$$

$$\Delta \ln GDP_t = \beta_0 + \sum_{i=1}^{n} \beta_1 \Delta \ln GDP_{t-j} + \sum_{i=0}^{n} \beta_2 \Delta \ln GCF_{t-j} + \sum_{i=0}^{n} \beta_3 \Delta \ln Labor_{t-j}$$

$$+ \sum_{i=0}^{n} \beta_4 \Delta \ln Trade_{t-j} + \sum_{i=0}^{n} \beta_5 \Delta \ln TRS_{t-j} + \sum_{i=0}^{n} \beta_6 \Delta \ln Tour_{t-j} + \sum_{i=0}^{n} \beta_7 \Delta \ln RER_{t-j} + \sum_{i=0}^{n} \beta_8 \Delta \ln Oil_{t-j}$$

$$+ \sum_{i=0}^{n} \beta_9 \Delta \ln Oil \times \ln Trade_{t-j} + \sum_{i=0}^{n} \beta_{10} \Delta \ln Oil \times \ln TRS_{t-j} + \sum_{i=0}^{n} \beta_{11} \Delta \ln Oil \times \ln Tour_{t-j} + \beta_{12}\varepsilon_{t-1} + u_t \quad (6)$$

where Δ represents changes to in lnGDP and its regressors; ε_{t-1} is the one period lagged error correction term (ECT) estimated from equations (3) and (4). The ECT displays how fast the imbalance between the long and short-run values of the dependent variable is eliminated. The predictable sign of the ECT coefficient is negative by econometric theory (Katircioglu, 2017; Katircioglu 2010).

4.3 Data and Methodology

4.3.1 Data Description

The data used in this paper are annual figures covering the period 1960– 2017, and the variables of the study are real GDP at constant 2010 prices in USD, gross capital formation as percent of GDP (GCF), labor force (labor), trade volume (trade) as percent of GDP, services' trade (TRS) as percent of GDP, total tourist arrivals as a proxy of tourism variable (Tour) (Katircioglu, 2009), real exchange rates (RER) in Turkey and oil prices (oil). The data for labor, tourism and RER variables have been gathered from the TURKSTAT (2018) while the rest has been gathered from World Bank (2018). Crude oil prices have been obtained from the BP statistical review of world energy (2018).The variable of RER has been added to equation (1) in parallel to the literature studies as it is the major determinant of tourism and foreign trade sectors (Katircioglu, 2009).

4.3.2 Methodology

This research study searches interactions among oil prices, tourism, trade, and growth in the case of Turkey. Time series analysis has been adapted to forecast these interactions. Prior to econometric estimations and as a first step, unit root tests of the Zivot and Andrews (ZA) (1992) approach have been adapted in this study which allow to consider one structural break in the series. This is due to the reason that series of this study exhibit break points as can be seen in Figure 2:
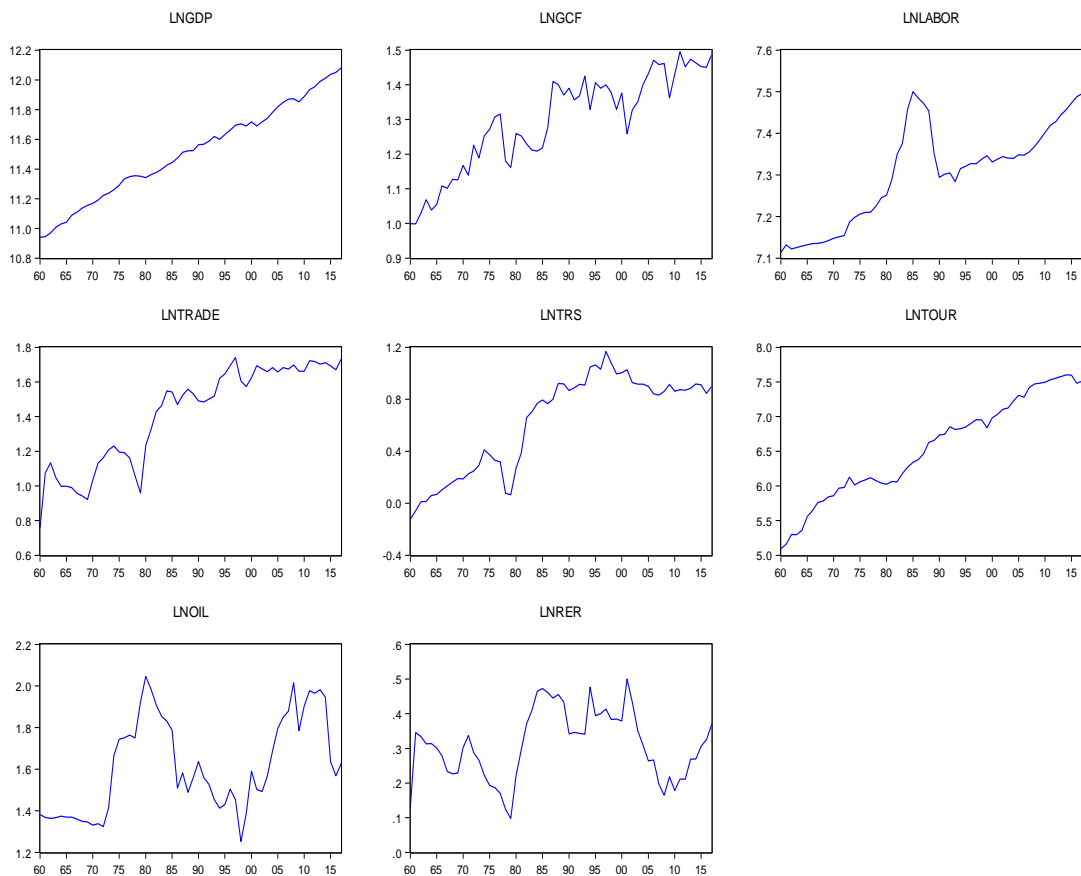
Figure 2: Logarithmic Time Series Plots of Variables
Source: Own created in Eviews10.

In the next step, the Johansen cointegration tests (Johansen & Juselius, 1990) have been adapted to confirm the existence of the cointegrating vector in equations (1) and (2) of the present study. In econometrics, it is essential to search for cointegration vector in equations (1) and (2) in the case where series are non-stationary but integrated of the same order (Katircioglu, 2009b). In the third step, equations (3) and (4) have been estimated respectively for the long-run and short-run coefficients in addition to the ECT terms in equations (5) and (6); these estimations have been done again through the Johansen methodology. And finally, impulse responses and variance decompositions have been estimated for comparison purposes from regression models in this study.

4.4 Results and Discussions

Table 8 displays the outcomes of ZA (1992) unit root test allowing one structural break in the series; it is seen that all series are non-stationary at levels then become stationary at their first differences; so, they are combined of the same order, I (1).

Table 8: Unit Root Test Zivot and Andrews (1992)

	Statistics (Level)			Statistics (First Difference)			
	ZA_B	ZA_T	ZA_I	ZA_B	ZA_T	ZA_I	Conclusion
lnGDP	3.964	-4.446	-3.478	−5.139	-5.019*	−6.356*	I (1)
Break Year	1984	1994	1999	1989	1987	2003	
Lag Length	0	3	0	3	3	0	
lnGCF	-4.755	-4.090	-4.541	-9.581*	-9.427*	-9.647*	I (1)
Break Year	1978	1975	1988	2002	1979	2002	
Lag Length	0	0	0	0	0	0	
lnLabor	-4.476	-3.177	-3.913	-7.373*	-4.840*	-6.995*	I (1)
Break Year	1993	1983	1993	1986	1996	1986	
Lag Length	4	4	4	4	4	4	
lnTR	-4.372	-4.693	-5.130	-7.631*	-7.374*	−8.478*	I (1)
Break Year	1988	1985	1982	1992	1991	1986	
Lag Length	1	1	1	4	4	4	
lnTRS	-4.615	-3.250	-4.266	-5.283	-5.158*	−5.341*	I (1)
Break Year	1987	1983	1981	2000	2004	1987	
Lag Length	2	0	0	3	3	3	
lnTour	-3.385	-2.530	-3.455	-7.545*	-7.003*	−7.671*	I (1)
Break Year	1983	1993	1987	1983	1985	1983	
Lag Length	0	0	0	0	0	0	
lnRER	-	-3.736	-	-7.027*	-6.520*	−6.644*	I (1)
Break Year	-	1984	-	1985	2006	1986	
Lag Length	-	0	-	0	0	0	

Table 9: Estimating Long Term Coefficients and Error Correction Terms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep.var.: lnGDP								
lnGCF	0.063	-1.667***	-0.785*	9.663*	-0.448	0.284**	0.639*	0.578*
	(0.157)	(-1.968)	(-3.944)	(7.578)	(-1.122)	(2.513)	(6.945)	(7.917)
lnLabor	0.147	2.774*	0.351**	-2.124*	2.161*	0.737*	0.460*	0.407*
	(0.402)	(3.290)	(2.877)	(-3.060)	(6.300)	(7.597)	(7.540)	(8.479)
lnTrade	1.078*	-0.127	0.761*	-1.036	1.045*	1.136*	0.499	-2.977*
	(4.967)	(0.142)	(5.474)	(-1.681)	(4.146)	(7.424)	(1.037)	(4.953)
lnTRS	-	0.736	-0.309*	-2.215*	-0.321***	0.429*	0.878*	2.388*
		(1.418)	(-4.232)	(-3.983)	(-1.716)	(8.411)	(3.227)	(9.184)
lnTour	-	-	0.356*	0.381***	0.082	0.352*	0.451*	1.355*
			(8.900)	(1.867)	(0.901)	(13.538)	(19.608)	(11.885)
lnRER	-	-	-	6.069*	-1.606*	-0.245***	0.295*	0.203*
				(5.730)	(-3.304)	(-1.828)	(3.206)	(2.900)
lnOil	-	-	-	-	-0.689*	0.321*	0.905**	2.051*
					(-5.300)	(3.000)	(2.520)	(6.791)
lnOil_lnTrade	-	-	-	-	-	-0.427*	-0.278	1.855*
						(5.337)	(-0.929)	(4.986)
lnOil_lnTRS	-	-	-	-	-	-	-0.734*	-1.630*
							(-4.146)	(-9.644)
lnOil_lnTour	-	-	-	-	-	-	-	-0.536
								(-8.121)*
Lag Length	4	3	2	2	1	1	1	1
Trace Stat.	52.031**	70.562**	112.056*	164.894*	170.903*	252.009*	314.210*	401.374*
R-Square	0.209	0.184	0.363	0.428	0.506	0.071	0.545	0.597
ECT$_{t-1}$	-0.023**	-0.014***	-0.182*	-0.157**	-0.220*	-0.110***	-0.003***	-0.015**

*Source: Own created in Eviews10. Note: *, **, and *** denote the rejection of the null hypothesis at the 1, 5, and 10 percent levels respectively. Numbers in brackets are t-ratios.*

Since our series are integrated of order one and they are non-stationary at levels, cointegration tests are needed to confirm relationships in equations (1) and (2). Literature studies document that trace statistic gives better and more robust results than eigen values in the Johansen methodology (Katircioglu & Naraliyeva, 2006). As can be seen from Table 9, equations (1) and (2) have been estimated in a total of eight different modeling options from the narrowest to the widest ones for comparison purposes. Therefore, the Johansen cointegration test has been carried out for all these eight modeling alternatives. It is seen from Table 9 that the null hypothesis of no cointegrating vector is successfully rejected in the case of all model options since trace statistics are statistically significant and greater than critical vaues; therefore, Thus, we conclude that equations (1) and (2) are cointegration models in this study. Confirming long term relationships in equations (1) and (2), in the next stage, long run coefficients and ECM regressions for error correction terms will be estimated. These estimations are also provided in Table 9.

Firstly, Table 9 shows that in the main effects' models until model option (5), foreign trade exerts statistically significant and elastic effects on gross domestic product. Thus, this study confirms the trade-led growth hypothesis for Turkey. On the other hand, the coefficients of services trade are generally significant but negative as expected owing to the fact that majority of services trade in Turkey are imports of services related with services and manufacturing sectors. Table 9 shows that tourism growth in Turkey significantly and positively impacts on real income growth as expected; however, its coefficients are inelastic. Finally, it is seen that oil price changes exert negatively significant effects on real income level in Turkey. This finding is also as expected owing to the fact that Turkey heavily depends on energy

and oil imports and this reality is the major reason behind persistent current account deficits in Turkey. Capital and labor do also impact on positively and significantly on real income growth.

Secondly, results of the interaction effects' models via equation (2) have been also presented in Table 9 via models (6) through (8). It is clearly seen that all the interaction terms (lnOil × lnTrade, lnOil × lnTRS, and lnOil × lnTour) have negative and significant coefficients which reveals that oil price changes negatively moderate the effects of trade, services trade, and tourism on real income growth. For example, although foreign trade and tourism exert positive individual effects on real income, oil prices affect these impacts negatively. Therefore, according to the conceptual model in Figure 1 of this study, foreign trade, services trade, and tourism are significant contributors for real income growth in Turkey but oil price changes negatively affect these contributions or that is to say oil prices negatively moderates the effects of trade and tourism on real income. In the next step, error correction terms have been also estimated under vector error correction mechanism. Table 9 shows that real income in Turkey converges towards its long term equilibrium levels very slowly through the channels of regressors in equations (1) and (2). But error terms are negatively significant as expected. Such low levels of adjustment in error correction terms should not be again surprising since the Turkish economy grows mainly import based consumption patterns. Thus, investigation of such nexus is an interesting further research directions.

In the next step, impulse responses between oil price shocks and other variables under consideration in equation (1) have been plotted in Figure 3. It is seen that the response of GDP to a given shock in oil prices is negative over the period but highly

insignificant. This is also the same for the case of the response of gross capital formation. Figure 3 shows that responses of labor, foreign trade, services trade, and real exchange are significantly positive towards given shocks in oil prices. These reveals that when a shock is assigned to oil prices, the reaction of these aggregates towards this shock will be significantly in the same direction. These can be attributed to positive associations between oil prices, inflation, exchange rates, and therefore trade volume. But, on the other hand, the reaction of tourism against a shock in oil prices are positive in the initial periods but become negative in the later periods. This reveals that tourism activity is affected by oil prices positively in the shorter periods but negatively in the longer periods.

Finally, Table 10 gives the variance decomposition results of variables under consideration against changes in oil prices, which reveal that in the initial periods, low levels of the forecast error variance of GDP, GCF, Labor, Trade, TRS, Tour, and RER are clarified by exogenous shocks to oil prices. Then, these ratios start to increase in the later periods. For example, the forecast error variance of GDP by a shock to oil prices is 7.394 percent in period 10 while this ratio is 4.832 percent for trade, 4.949 percent for services trade, and 3.923 percent for tourism. These findings are consistent with conclusions from impulse response functions in Figure 3.
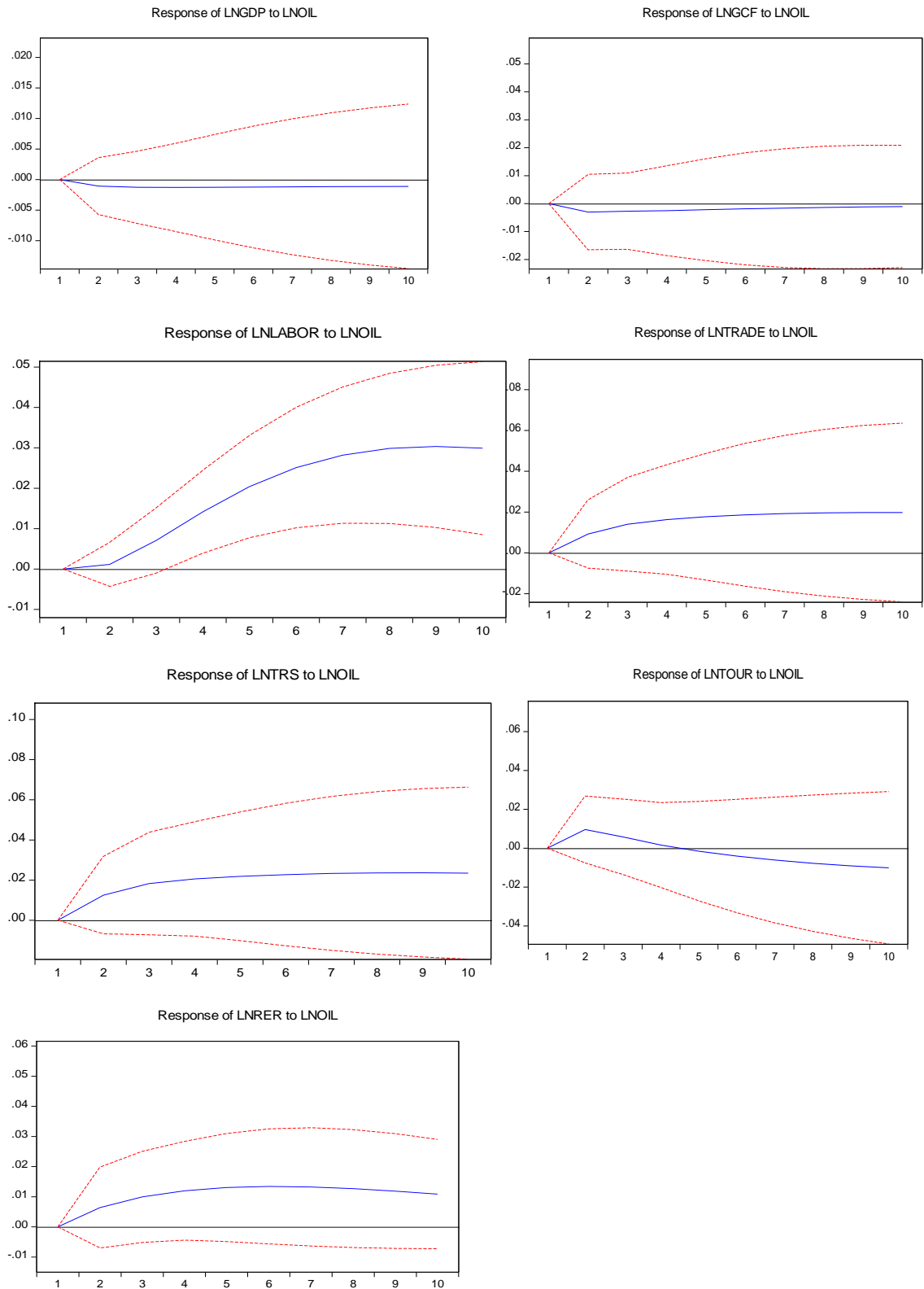
Figure 3: Impulse Responses
Source: Own created in Eviews10.

Table 10: Variance Decompositions

Period	lnGDP	lnGCF	lnlabor	lnTrade	lnTRS	lnTour	lnRER
1	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.020084	0.079309	0.030052	1.647076	1.112946	2.623673	0.012405
3	0.188525	0.134418	5.007112	2.961272	1.825252	3.240640	0.059585
4	1.213974	0.213684	15.39612	3.473541	2.226889	3.135847	0.092716
5	2.679002	1.077385	23.86259	3.803221	2.660013	3.031104	0.078791
6	4.054208	2.764039	27.88605	4.184281	3.165956	3.054004	0.111623
7	5.245488	4.701258	28.71394	4.520669	3.674886	3.222052	0.225948
8	6.219924	6.455562	28.01752	4.705352	4.139176	3.464330	0.328023
9	6.938934	7.855397	26.87800	4.781573	4.557579	3.709942	0.396573
10	7.394093	8.859342	25.76507	4.832613	4.949861	3.923848	0.454436

Source: Own created in Eviews10.

4.5 Conclusion

This study has examined the role of oil price changes in the effects of services trade and tourism on real income growth in Turkey. Initial results of this study through the main effects models confirm the long term impacts of tourism and services trade sectors on real income growth in Turkey. Tourism and trade (both services and manufacturing) exerts positively significant effects on the long term performance of macroeconomic activity as measured by gross domestic product. Oil prices negatively impact on real income growth of Turkey. Later results through the interaction effects' models show that oil prices negatively moderate the effects of foreign trade, services trade, and tourism on real income growth in Turkey. This finding reveals that significant effects of foreign trade, services trade, and tourism on real income are negatively influenced from oil price changes. In the final stage, impulse response and variance decomposition tests show that although real income in Turkey is not so much responsive to oil price shocks, foreign trade, services trade, and tourism are positively influenced from oil price shocks. For example, oil price increases will positively impact on price levels, exchange rates, and therefore trade and tourism in Turkey as expected. High irresponsiveness of aggregate income to oil

price shocks is due to the fact that Turkey heavily depends on energy and oil imports; and no matter what happens to oil prices, income generation in Turkey will not be so much reactive to oil prices but will be negatively associated with oil price changes. This finding is also supported with low levels of error correction terms in the estimated models of this study.

Results of this study reveal some policy implications. Turkey has been heavily depending on import-based consumption patterns from which source of growth comes. On the other hand, services sector, mainly tourism and finance, has progressed well in the last three decades. But, unlike services sector, manufacturing sector lost its priority and/or importance for income generation during this period. Therefore, owing to large imports of final and intermediate products, Turkey suffers substantially from persistent current account deficits. Therefore, in order to minimize vulnerability of the economy and its sectors to shocks in foreign energy and oil markets via imports, the Turkish authorities should initiate positive investment environment for manufacturing sector and its exports. This study has shown that although in the initial periods oil price shocks positively impact on tourist flows, this impact becomes significantly negative in the longer periods. Positive association between trade and oil price changes is attributed to considerable volume of imports in the overall trade volume and import dependency of the Turkish economy. Thus, vulnerability of the Turkish economy to foreign energy and oil markets can only be minimized by encouraging positive investment climate in manufacturing sector whereas the same has been achieved in the case of the Turkish tourism industry.

As further researches, similar studies maybe done for the case of the additional tourist destination countries for comparison determinations. Furthermore, as

mentioned earlier in this study, (1) moderating role of oil price changes in the nexus between the other economic aggregates such as import dependency, tourism, and growth can be also considered in future studies, (2) the proposed conceptual model of this study can be tested via different alternative methodologies for comparison purposes, and (3) since this study found that real income growth in Turkey reacts towards its long term equilibrium path very slowly through the channels of economic aggregates under consideration, the other sources of growth in Turkey can be searched and augmented into such conceptual model proposed in the current study.

Chapter 5

THE ROLE OF SERVICES TRADE AND TOURISM IN GROWTH: EMPIRICAL EVIDENCE FROM EUROPEAN UNION

5.1 Introduction

The growth of international trade relations is one of the issues which has been examined in the economic field for many years. Studies on the relationship in question increased considerably after the 1970's. Trade has been tested as engine of growth in many literature studies; additionally, some validated export-led growth while some others validated import-led growth hypotheses. It is important to mention that results are still mixed and have not reached a consensus yet. Considerable number of studies has been done in the relevant literature proved the role of trade as engine of growth (Soukhakian, 2007; Hye, 2008; Omotor, 2008; Katircioglu, 2009; Hye, 2008; Duasa, 2011; Fatima et al., 2011; Ozkan, 2013; Kaushal & Pathak, 2015). There are studies confirming the investigation of the positive relationship between foreign trade and economic growth in the literature (Kravis, 1970; Riezman et al., 1995, Frankel &Romer, 1996; Al-Yousif, 1997; Dritsakis&Adamopoulos, 2004; Hameed et al., 2005; Onwuka, 2007; Katircioglu, 2009a; Katircioglu, 2009b; Katircioglu, 2009c; Ay et al., 2004; Utkulu&Özdemir, 2004; Erdoğan, 2006; Korkmaz&Çevik, 2010; Gül&Kamacı, 2012) as well as studies which say the opposite like Şimşek (2003). According to varying times and places mixed results

were obtained (Henriques&Sadorsky, 1996; Akbar & Naqvi, 2000; Demirhan, 2005; Aktaş, 2009; Kıran &Güriş, 2011).

On the other hand, tourism industry has been an important study subject for researchers as well as a part of services trade. The Tourism-Led growth hypothesis is one of the most debated issues in this area, (Katircioglu, 2009; Gunduz, &Hatemi, 2005; Tosun et al., 2003; Tatoglu et al., 2002; Tosun, 1999; 2001) which indicate the contribution of tourism growth to economic growth. Empirical studies have been conducted for various countries to examine the validity of this hypothesis which is vital for macro-economic prosperity (Grzinic et al., 2010).

The effects of trade and tourism on income level of countries have been explained and tested through trade-led growth and tourism led growth hypotheses over many years (Katircioglu, 2009a; 2009b). Too many studies are available in the relevant literature with this respect. Trade and tourism does not only contribute to aggregate income but also to financial sector by bringing foreign exchange to the country (Sodeyfi, 2017; Sodeyfi & Katircioglu, 2017). Tang & Jang (2009) investigated the relationship between tourism industry and economic growth in the US. They used GDP growth rate and tourism income as critical variables then co-integration and Granger causality tests. they claimed that tourism could have a different weight in the development of the economy for each country (Oh, 2005). The extent and openness of the economy (Kim et al., 2006) and the manufacture restrictions (Dwyer et al., 2000) reason the economy and tourism relationship to be variable from country to country. Since tourism trade incorporates diversity of sub-businesses like casinos, airlines, restaurants and hotels which may respond otherwise to the similar economic forces in terms of significance or timing.

Cantavella-Jorda & Balaguer (2002) the authors tested the tourism-driven growth hypothesis for Spain by testing the role of tourism in long-term economic growth. Compare by export led growth hypothesis, the investigators perceived that in Spain, the second main recipient of external tourist revenues (5.9 % of its GDP) in the world after the USA; tourism can unusually receive foreign currency which may perhaps be utilized for importing capital goods. Therefore, tourism maybe considered as an significant resource of financing capital goods import. So, tourism has a fundamental role in economic growth. Their empirical study based on co-integration and causality investigations reinforce this hypothesis. Co-integration tests demonstrated a long-term relationship between GDP and tourism receipts, also, causality test outcomes indicated that tourism growth can reason economic development.

Dristakis (2004) The study was examined long-term economic impact of tourism for Greece, by applying a multivariate autoregressive (VAR model) for the period between 1960:2000 and real effective exchange rate, real gross domestic product and overseas tourism returns as the variables. VAR model (multivariate autoregressive) and real effective exchange rate, real gross domestic product and foreign tourism returns were applied as variables. Also, author found a "strong Granger causality" between international tourism revenues and economic growth relationship between tourism receiving and GDP (gross domestic product).

Demiroz&Ongan (2005) Foreign tourism revenues, ineffective on Turkey's long-term economic growth Granger causality and co-integration test was used for testing. Researcher's empirical findings suggested that they were functioning in two

directions and that fundamental relationships. There were both long and short periods between two variables.

The study examined the importance of international tourism for Turkey's economy in two respects: First of all, sectoral area comparison of GDP elasticities, second second, the calculation of the impact of the international tourism sector on output, GDP (value added) and the country's employment rate. For this analysis, (SAM) Social Accounting Matrix was used for 1996 and 2002.The results of this paper Turkey's reveals the arrival of international tourists with a relatively modest contribution to economic growth. The writer believes however this can perhaps be due to the incomplete leak of external tourist spending out of the country's economy (Akkemik, 2011).

In the last decade, very rare studies have examined interactions among trade, tourism, and growth sometimes in trivariate system. Katircioglu (2009) examines trade-tourism-growth triangle in the case of Cyprus and finds that growth in income do impact on the level of tourism and trade activity in Cyprus rather than the effects of trade and tourism on growth; thus, trade and tourism in Cyprus is output driven according to the findings of Katircioglu (2009). Furthermore, Kulendran& Wilson (1998) and Shan & Wilson (2001) also study on the links between tourism and trade and document that this link deserves further attention from researchers.

In short, although considerable number of researches regarding the impacts of tourism and trade expansions on economic growth of countries are evaluated in the literature, the links between tourism and trade and the effects of this link on economic growth have not been considered sufficiently till the date. Thus,

considering the link between and trade and tourism and even their joint effect on aggregate income would be an interesting research topic.

5.1.1 Aim of the Study

The purpose of this study is to investigate interactions between tourism, services trade, and economic growth in the EU. The EURO has depreciated considerable against United States Dolar (USD) in the last decade while it appreciated against the British sterling (GBP). Thus, movements in the EURO rates as well as domestic currencies of non-EURO EU countries are also important while studying the effects of tourism and services trade on growth.On the other hand, there has been macroeconomic deterioration in some EU countries especially after the 2008 financial crisis. Therefore, searching for such nexus in the case of EU countries become more important and an interesting study area. Table 12 presents summary statistics regarding trade, services trade, tourism, and income figures in the EU.

The following section will describe the theoretical setting of the study; section 3 will present data and methodology in brief; section 4 will present the results; and section 5 will conclude the study.

5.2 Theoretical Setting& Methodology

5.2.1 Theoretical Setting

This article suggests that services trade and tourism are determinants of real income growth in the EU countries. The following functional relationship will be searched in this study in parallel to similar models in the relevant literature (Katircioglu,2010a; 2010b; 2009a; 2009b). It is expected that services trade and tourism exert significant effects on real income. Additionally, since exchange rates and foreign trade are the major determinants of services trade and tourism activities, they are added to

equation (1) as advised in the literature and as mentioned in the previous section for the case of European Union (Katircioglu, 2009a; Koccat, 2008). Furthermore, it is assumed that business activities significantly also impact on the growth in income, tourism, and trade; thus, industrial value added as a proxy of business conditions (Sodeyfi & Katircioglu, 2016) is also added to equation (1) for control purposes. Therefore, the following econometric model is proposed in this study:

$$y_t = f\,(Tour^{\beta_1}, TR^{\beta_2}, TRS^{\beta_3}, IND^{\beta_4}, RER^{\beta_5}\,) \tag{1}$$

where y_t is real income in period t; Tour is total tourist arrivals, TR is trade volume (exports plus imports in goods/services), and TRS is services' trade, IND is industrial value added, and RER is real exchange rates. Equation (1) will be then expressed in the logarithmic form in order to capture growth effects in the long term aspresented in the DOLS form below (Katircioglu, 2017; Katircioglu, 2010a):

$$\ln y_t = \beta_0 + \vec{\beta}\ln X + \sum_{j=-q}^{p}\gamma_j \Delta \overrightarrow{\ln} X_{t-j} + \varepsilon_t \tag{2}$$

where $\ln y_t$ stands for growth proxy; $\ln X$ is the matrix of explanatory variables at the natural logarithm defined in equation (1); $\vec{\beta}$ is cointegrating vector which also stands for the long-run cumulative multipliers or, alternatively, thelong-run effects of changes in X on the dependent variable; p and q are the lag and lead lengthsrespectively; and ε is an error term.

5.2.2 Data Description

The data used in this paper are annual-panel figures covering the period 1995– 2016, and the variables of the study are real GDP (y) at constant 2010 prices in USD, total tourist arrivals as a proxy of tourism variable (Tour) (Katircioglu, 2009), trade volume (TR) as percent of GDP, services' trade (TRS) as percent of GDP, industrial value added (IND) as percent of GDP, and real effective exchange rate index (RER).

The data has been gathered from World Bank (2018). The variable of RER has been added to equation (1) in parallel to the literature studies as it is the major determinant of tourism and foreign trade sectors (Katircioglu, 2009).Table 11 presents summary statistics regarding trade, tourism, and growth figures in the EU area over the years.

Table 11: List of European Union Members with Summary Statistics (2016)

Country	GDP per Capita (current USD prices)	Trade Volume (% of GDP)	Tourist Arrivals (millions)	Trade in Services (% of GDP)
Austria	44,731.010	101.167	28,121,000	28.205
Belgium	41,260.977	164.544	7,481,000	47.356
Bulgaria	7,469.447	123.643	8,252,000	25.809
Croatia	12,298.570	95.207	13,809,000	34.260
Cyprus	23,666.973	130.196	3,187,000	80.507
Czech Republic	18,483.716	151.598	9,321,000	22.573
Denmark	53,578.756	100.974	10,781,000	38.779
Estonia	17,736.802	154.102	3,147,000	44.515
Finland	43,433.032	72.807	2,789,000	23.684
France	36,870.219	61.128	82,570,000	19.103
Germany	42,232.574	84.267	35,555,000	17.067
Greece	17,881.526	61.639	24,799,000	19.986
Hungary	12,820.088	168.992	5,302,000	32.952
Ireland	64,100.429	221.158	10,100,000	111.031
Italy	30,668.981	56.351	52,372,000	11.014
Latvia	14,070.422	119.187	1,793,000	28.119
Lithuania	14,912.686	147.610	2,296,000	29.607
Luxembourg	100,738.684	407.431	1,054,000	286.795
Malta	24,770.806	261.520	1,966,000	195.555
Netherlands	45,637.886	153.888	15,828,000	38.319
Poland	12,415.043	100.472	17,471,000	17.828
Portugal	19,871.718	79.137	11,223,000	21.567
Romania	9,532.167	83.569	10,223,000	16.661
Slovakia	16,529.540	185.747	2,027,000	18.371
Slovenia	21,650.212	146.152	3,032,000	26.338
Spain	26,616.757	62.876	75,315,000	15.933
Sweden	51,844.761	83.707	6,782,000	26.144
United Kingdom	40,412.033	58.582	35,814,000	20.909

Source: World Development Indicators (2018), World Bank.

5.2.3 Methodology

This research study searches the roles of tourism and services trade in real income growth in the case of European Union countries. Both panel & time series data analyses have been adapted to forecast this nexus. Prior to econometric estimations and as a first step, panel unit root tests of the approaches developed by Levin, Lin and Chu (LLC) (2002), Im, Pesaran and Shin (IPS) (2003) and Maddala and Wu (1999), henceforth M-W, have been carried out in this study for the unit root process.

In the next step, panel regressions of equation (2) have been estimated for the various options from the narrowest to the widest model options as can be seen in Table 13 using the Dynamic Ordinary Least Squares (DOLS) approach. In addition to panel regressions, time series regressions for individual EU members have been also estimated via the DOLS approach as can be seen in Table 14.

5.3 Discussions & Results of the study

Table 12 presents panel unit root test outcomes for the series under consideration. It is observed that the null hypothesis of a unit root maybe rejected for all series with different model selections (with/without trend/intercept); thus, we conclude that all panel series of this study are integrated of order zero, I (0); therefore, series are stationary at levels.

Table 12: Panel Unit Root Tests

			Levels		
Variables	LLC	IPS	Bretiung t-stat	ADF - Fisher	PP - Fisher
lnGDP					
τ_T	-2.641*	1.365	0.210	36.856	18.714
τ_μ	-7.382***	-1.801*	-	78.492*	129.235***
τ	16.437	-	-	1.623	0.780
lnGFC					
τ_T	-2.809*	-3.228*	-0.716	92.896*	50.755
τ_μ	-1.328*	-1.884*	-	80.002*	53.976
τ	-1.752	-	-	47.350	69.820
lnIND					
τ_T	-2.184*	-1.036	-1.536*	64.636	45,742
τ_μ	-1.490*	0.662	-	55.370	49.478
τ	-8.421***	-	-	144.088***	187.924***
lnLABOR					
τ_T	0.224	2.115	4.560	49.216	30.386
τ_μ	-2.349*	3.316	-	58.609	70.967*
τ	11.734	-	-	34.493	35.053
lnRER					
τ_T	0.176	1.754	1.212	45.387	32.725
τ_μ	-4.326***	-2.944**	-	75.423*	75.218*
τ	0.446	-	-	24.488	27.183
lnTRS					
τ_T	-3.436**	-1.891*	0.077	87.972*	315.439***
τ_μ	-4.264***	0.11297	-	57.3472	100.470**
τ	11.272	-	-	3.433	2.737
lnTA					
τ_T	-1.504*	-3.359**	-0.905	102.448**	75.939*
τ_μ	0.319	4.377	-	40.749	68.519
τ	11.729	-	-	2.150	1.751
lnTR					
τ_T	-0.874	-1.028	-1.370*	73.566*	64.132
τ_μ	-4.008***	-2.585**	-	85.464*	84.332*
τ	3.576	-	-	19.706	18.696

*Source: Own created in Eviews10. Note: τ_T represents the most general model with a drift and trend; τ_μ is the model with a drift and without trend; τ is the most restricted model without a drift and trend. Optimum lag lengths are selected based on Schwartz Criterion. *, **, and *** stand for statistical significance at 0.01, 0.05, and 0.10 levels respectively.*

Since our series are stationary at levels, the DOLS approach will be suitable for estimating equation (2) of this study. Results of the panel DOLS method are provided in Table 13.

Table 13: Panel DOLS Results

Dep.var.: lnGDP	(1)	(2)	(3)	(4)	(5)	(6)
lnGCF	0.560*	0.516*	0.405*	0.427*	0.332*	0.296*
lnLabor	0.411*	0.497*	0.831*	0.871*	-0.026	0.795*
lnIND	-	0.244*	0.688*	0.532*	0.285	0.590*
lnTRS			1.322*	0.661*	0.810**	1.027***
lnTA	-	-	-	-0.009*	-	-
lnTR	-	-	-	-	0.084*	-
lnRER	-	-	-	0.014***	0.105***	0.022
R^2	0.999	0.999	0.999	0.999	0.999	0.999
Adj. R^2	0.999	0.999	0.999	0.999	0.999	0.999
S.E. of regression	0.032	0.029	0.027	0.025	0.021	0.021
Lon-run variance	0.000	0.000	0.000	4.88E-05	2.85E	3.12E
Mean dependent var	25.945	25.945	25.945	25.945	25.945	26.171

Source: Own created in Eviews10.
*Notes: All estimations include linear trend specification. *, **, and *** stand for statistical significance at 0.01, 0.05, and 0.10 levels respectively.*

In order to check for robustness of results, the DOLS estimations will be done under three different options: (1) estimation with intercept and trend, (2) estimation with intercept but without trend and (3) estimation without trend and intercept. Furthermore, again to observe robustness of results, estimations have been done under six different model options as can be seen from Table 13 from narrower ones to wider ones by adding each regressor onwards. Firstly, results of the panel DOLS show that the long run coefficients of capital and labor are positive and statistically significant. This is also the same with the coefficients of industrial value added. Thus, it is concluded that gross fixed capital formation, labor force, and industrial production exert positively significant effects on income levels of the EU members.

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When the overall trade volume (goods and services) are added to the models, the same outcome appears in Table 13. Although the same outcome is true for services trade across model options through (4) to (6), especially in model options with constant but without trend, its coefficient becomes inelastic and positively significant. Furthermore, interestingly, the coefficients of services trade are considerable higher than those of the overall trade volume. But this cannot said about the coefficients of tourism proxy (tourist arrivals) as they are comparatively lower but statistically significant in model options (5) and (6). To conclude, as far as the overall panel is concerned, overall trade volume, services trade, and tourism exert positively significant effects on income levels of the EU members; however, the impact and the role of services trade are considerably higher than those of the overall trade and tourism. Finally, Table 13 shows that the coefficients of control variables such as those of capital, labor, industrial value added, and real exchange rates are positively significant for real income growth across model options.

Table 14: Individual Coefficients from the DOLS

Variables	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Rep.	Denmark	Estonia	Finland	France
Trend	0.014*	0.014*	0.001	-0.000	-0.015**	0.026*	0.013*	0.014*	0.010**	0.001
Intercept	9.162	-18.145*	-5.609	20.387	-11.122*	5.965	20.613*	-9.186**	-19.710*	-14.173***
lnGCF	-0.242***	-0.003	0.031	0.179	0.065	0.610*	0.006	0.451*	-0.021	0.310*
lnLabor	0.302	0.480**	1.231*	0.462	1.473*	-0.280	-0.399**	0.563	1.699**	1.607**
lnIND	1.656*	2.731*	0.490**	-1.255	0.482**	2.083*	1.184*	1.529*	1.874*	0.907**
lnTRS	1.715	6.424*	1.009**	-1.371	2.254**	2.905*	1.801*	3.413*	3.012**	2.070
lnTA	0.059	-0.010	0.494	0.102	0.176*	0.051	0.020**	0.249*	0.124	0.197**
lnTR	0.201*	0.062**	-0.060	0.193	0.016	0.070**	0.011	0.022	0.049***	-0.012
lnRER	-1.123*	-0.053	-0.142	0.224	0.292**	0.035	-0.102	-0.214	-0.277	-0.191***
R2	0.993	0.993	0.988	0.970	0.991	0.994	0.986	0.987	0.991	0.990
Adj. R2	0.988	0.989	0.980	0.946	0.985	0.990	0.977	0.980	0.985	0.984
S.E. or Regr.	0.011	0.010	0.029	0.026	0.018	0.016	0.011	0.034	0.015	0.011
Long-run Var.	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001

Source: Own created in Eviews10.

*Notes: All estimations include linear trend specification. *, **, and *** stand for statistical significance at 0.01, 0.05, and 0.10 levels respectively.*

Table 14: Individual Coefficients from the DOLS (Continued)

Variables	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta
Trend	0.014*	-0.001	-0.009*	0.014*	0.002	0.029*	0.032*	0.051*	0.056*
Intercept	32.151*	-22.691***	-21.600*	5.361**	15.171	4.846	21.713*	-7.472*	45.427**
lnGCF	0.027	0.339*	0.157**	0.066**	0.545*	0.319*	0.274*	0.112*	0.087
lnLabor	1.486*	2.030**	1.618*	1.244*	0.738*	1.155*	-0.530**	-0.746*	-0.936
lnIND	1.514*	0.723**	1.491*	0.351	-0.098	-0.301***	1.039*	1.701**	-0.448
lnTRS	-4.548**	1.928	2.339*	-0.305	-0.638	0.090	1.113*	8.553**	-2.857
lnTA	-0.330**	0.355**	0.246**	-0.085	0.130**	0.180*	-0.149*	0.028	0.286
lnTR	0.145*	-0.115***	0.039***	0.230**	-0.011	-0.013	0.137*	0.037	-0.099
lnRER	-0.692*	0.679**	0.582*	-0.345*	0.005	-0.018	-0.045*	-0.747	-0.100
R2	0.986	0.964	0.989	0.996	0.973	0.993	0.995	0.991	0.983
Adj. R2	0.977	0.940	0.982	0.994	0.955	0.989	0.993	0.986	0.973
S.E. or Regr.	0.012	0.031	0.018	0.019	0.009	0.026	0.020	0.024	0.030
Long-run Var.	0.002	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000

Source: Own created in Eviews10.
Notes: All estimations include linear trend specification. *, **, and *** stand for statistical significance at 0.01, 0.05, and 0.10 levels respectively.

Table 14: Individual Coefficients from the DOLS (Continued)

	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Variables									
Trend	0.006*	0.041*	0.013**	0.013*	0.009*	0.032*	0.022*	0.019*	0.012***
Intercept	-0.274	40.296*	7.233**	34.497*	-3.994	49.816*	16.108**	29.142*	-4.876
lnGCF	0.138*	0.232*	0.201*	0.120**	0.323*	0.209*	0.241***	0.418*	0.448*
lnLabor	1.052*	-0.253***	1.082*	-0.743*	0.568***	-2.081*	0.805*	-0.407	-0.147
lnIND	0.800*	-0.709**	0.233	-0.235***	1.300***	0.256	0.460	0.074	1.555*
lnTRS	1.377***	-1.458*	0.081	-0.143	2.897**	0.160	-0.042	-0.168	6.605*
lnTA	0.144*	-0.106*	0.012	0.163*	0.188*	0.107*	-0.146	0.095*	-0,009
lnTR	-0.011	-0.011	0.016	0.045*	0.009	0.003	0.033	0.038***	0.049
lnRER	-0.036	0.009	-0.062	0.120**	0.056	0.409*	-0.526*	0.118**	-0.011
R2	0.993	0.999	0.991	0.994	0.987	0.997	0.995	0.995	0.991
Adj. R2	0.988	0.998	0.985	0.990	0.981	0.995	0.992	0.992	0.986
S.E. or Regr.	0.011	0.008	0.007	0.020	0.021	0.017	0.011	0.012	0.013
Long-run Var.	0.002	0.000	0.001	0.000	0.000	0.003	0.000	0.000	0.000

Source: Own created in Eviews10.
*Notes: All estimations include linear trend specification. *, **, and *** stand for statistical significance at 0.01, 0.05, and 0.10 levels respectively.*

As a second stage in regression analysis, Table 14 presents the DOLS results from time series analysis for each individual EU member where all model options include both trend and intercept. In general, results are similar to panel estimates of the current study; the coefficients of services trade are highly and generally positively significant with a few exceptions. For example, the long run coefficient of services trade in the cases of Germany and Poland are very high but negatively significant. Thus, this finding leads researcher to observe this outcome due to import domination in the services sector of these two countries. However, in some EU members such as Greece and Ireland, services trade does not exert significant effects on real income. When the coefficients of tourism proxy are considered, it is seen that coefficients are as lower as the ones in panel estimations but they do not follow a unique conclusion. In some EU countries, the coefficients are positively significant while it is negatively significant in some others. In France, for example, as a first ranking country in tourist markets (UNWTO, 2017), the coefficient of tourist arrivals are positively significant ((β = 0.197, $p<$ 0.05) showing that tourist expansion in France significantly and positively impact on income level. This finding is also similar to the ones in Italy and Hungary as the other major tourist destinations. It is, finally, seen that the coefficients of the overall trade volume exhibit similar findings with those in panel estimations of Table 13.

5.4 Conclusion

This study has examined the role of services trade and tourism in real income growth in the case of EU members. Results of this study confirm the long term effects of tourism and services trade sectors on real income growth. Tourism and trade (both services and manufacturing) exerts highly and positively significant effects on the long term performance of macroeconomic activity as measured by gross domestic product. This result does not generally change between panel data and time series data for individual EU members. On the other hand, results on the effects of tourism as a part of services trade do not show a unique outcome. In general, the effects of tourism are inelastic but they are positive in some members while they are negative in some others especially who suffered from financial and economic crises during data period. In such countries with crises, the economic effects of tourism expansion have been absorbed by public and current account deficits over the data period of this study. But, in the cases of major tourist destination members such as France, Germany, and Hungary, the effects of tourism expansion on income level are positively significant although they are inelastic.

The major conclusion of this study is that although the overall services trade draw unique effects (positive and elastic) on income levels in the EU member countries, this cannot be said about the roles of tourism sector as a part of services trade. The effects of tourism on the local economies are characterized by macroeconomic conditions in the member states of European Union. Results do not also exhibit uniformity in estimations between panel data and time series data. Thus, it will be good to see if similar results would be available in the cases of other regions in the world as further research directions.

Chapter 6

CONCLUSION

6.1 Summary of Major Findings

This study, firstly has examined the role of services trade and tourism on real income growth in Turkey. Various time series analyses confirm positively significant effects of these services industries on real income growth in the economic long term of Turkey. The study mainly confirmed the long-term effects on real income growth in the tourism and service trade sector of Turkey. Tourism and trade (both service and manufacturing) create an inelastic but positive impact on long-term macroeconomic activity performance as measured by gross domestic product. Turkey in real income, long-term equilibrium path, by 41.1 percent each year through tourism and trade sectors gives considerable response. Although the short-term effects of the tourism and trade sectors were not flexible, they were found to be significant in various delay structures. In addition, Granger causality tests confirm one-way causes from the trade and tourism sectors to real income (1) and from real incomes to service trade (2). Real exchange rates were found to be important for the tourism and industrial sectors.

The second empirical chapter focused on the moderating role of oil price changes in the effects of services trade and tourism on real income growth in Turkey. The first results of this study, the main impact tourism models and services trade in the sector confirm the long-term effects on real income growth in Turkey. Tourism and trade

(services and manufacturing) have a positive impact on the long-term macroeconomic activity performance as measured by gross domestic product. Oil prices affect Turkey's real income growth negatively. Later models have been obtained starting from the interaction effect of foreign trade in Turkey shows that real income growth of trade in services and tourism on the negative impact of oil prices. This finding reveals that the effects of changes in oil prices, foreign trade, trade in services and tourism have a negative effect on real income. In the final stage, impulse response and variance decomposition tests, although not show much reaction to the shock oil price of real income in Turkey's foreign trade, show that trade in services and tourism have been positively affected by oil price shocks. Increases occurred in oil prices, price levels, exchange rates and hence trade and tourism in Turkey will affect in a positive way. High irresponsiveness of aggregate income to oil price shocks is due to the fact that Turkey heavily depends on energy and oil imports; and no matter what happens to oil prices, income generation in Turkey will not be so much reactive to oil prices but will be negatively associated with oil price changes. This finding is also supported by the low-level error-correction terms in the predicted models of this research.

The third empirical chapter examined the role of trade in services and the role of tourism in real income growth in the case of EU members. The results of this study confirm the long-term effects of the tourism and service trade sectors on real income growth. Tourism and trade (services and manufacturing) have a high and positive impact on the long-term performance of macroeconomic activity measured by gross domestic product. This result does not change between panel data and time series data for individual EU members. On the other hand, the results of tourism as a part of

the trade in services do not show a unique result. Generally speaking, the effects of tourism are not flexible, but are negative for some members, especially those affected by financial and economic crises. The economic effects of tourism expansion in crisis countries were absorbed by the public and current account deficits during the data period of this study. However, in major tourist destinations such as France, Germany and Hungary, the impact of tourism expansion on income levels is not flexible, but is of positive importance.

The major conclusion of the last empirical chapter is that although the overall services trade draws unique effects (positive and elastic) on income levels in the EU member countries, this cannot be said about the roles of tourism sector as a part of services trade. The effects of tourism on the local economies are characterized by macroeconomic conditions in the member states of European Union.

6.2 Policy Implications

The results of these studies reveal some policy implications. Turkey, which came to the import-based consumption patterns of growth, has been largely dependent on resources. On the other hand, the services sector, especially for tourism and finance, has progressed well in the last three decades. However, unlike the services sector, the manufacturing sector lost its priority and/or the importance of creating revenue in this period. Thus, due to large imports of finished and intermediate products, Turkey, the current account deficit is caused by damage to constantly. Therefore, in order to minimize the fragility of the economy and sectors by imports against shocks in the external energy and oil markets, the Turkish authorities should initiate a positive investment environment in the manufacturing sector and in exports. This study showed that although oil prices had a positive impact on tourist flows in the early

period, this effect was significantly negative in the long term. The positive relationship between the changes in trade and oil prices is attributed to a significant amount of imports in the overall trade volume and import dependency of the Turkish economy. Thus, the sensitivity of the Turkish economy to foreign energy and petroleum markets can be minimized by encouraging the positive investment environment in the manufacturing sector, as well as in the Turkish tourism industry.

In the example of Turkey's import sector, it shows that it is important to promote the tourism industry. Therefore, any restrictions could damage the developments in the tourism sector in Turkey. Policy makers in Turkey should ensure that tourism, trade and growth are well integrated with each other and should act as aware of the fact that it is linked. And between these rates exchange rates are the successful mediators; Thus, not only exchange rate policies, Turkey's Central Bank interest rate policy will be of great importance for tourism and commerce sectors. On the other hand, it has shown that with tourism in Turkey's import dependency; this situation may be risky for the tourism sector, as Turkish governments are paying attention to the current account deficits by encouraging exports but by restricting import activities.

In our empirical study on the role of service trade and tourism in the growth of European countries, real exchange rates are important for tourism and industrial sectors, therefore, it is of great importance that tourism investments are made more by domestic entrepreneurs and they are oriented towards exports.

6.3 Shortcomings of the Study and Further Research Directions

At the end of the researches, the results of the panel data and time series data do not show any similarities. Thus, it will be good to see whether similar research results

will be available as further research aspects in other parts of the world. Because of, similar studies can be done for other touristic countries. Moreover, as mentioned in this study, (1) the role of change in oil prices in the connection between other economic clusters such as import dependency, tourism and growth may also be considered in future studies, (2) proposed conceptual model can be tested with different alternative methodologies for comparison and (3) the study of real revenue increase in Turkey, the long-term stability path through economic aggregates has found it very slowly reacted. Growth in Turkey that has been searched according to the conceptual model proposed in the present study may be increased.

Thus, it is important that tourism investments need to be done more by domestic entrepreneurs and should be export oriented. As further researches, similar studies may be done for the simple of the different developed countries in the field of tourism for comparison purposes.

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