

# Factors Affected Tourism in Selected Arab Countries Through Different Economic Models

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## Abstract:

**T**he positive impact of tourism on a country economic extended to economic growth, and all fields of life, therefore this effects suggests the purpose this study,. the effecys t extended to the long term, and by products in domestic gross product. this study is aimed to study each variable effect to tourism of each country alone, not to make compression between the selected countries, or to examine the concepts and structure of tourism in these countries, but to give a picture of these factors affecting tourism in countries selected as Egypt, Jordan, Lebanon, Tunisia. To achieve this objective goal four factors are used in this study to explore the effect through different econometric models to capture the effect of these variables, such as prices and its effect which studied in this paper through effect of trade, comparative advantage, change climate, transportation, violence, and other services effects of tourism. The results of this study indicate that all variables have appositve impacts of tourism, and the coefficients are positively correlated and no serial correlation has met ina series, and coefficients are statistically significant, and explained the causes of changes in tourism arrivals. While violence in area, accident and cloches s in Egypt and Tunisia also Lebanon reflects the general situation to low tourism receipts, violence and biodiversity are able to show an empirical influence as a negative influence in tourism arrivals, consequently governments and authorities of tourism in these countries are pulled to have new strategies to repairer the shortening phase in their plans, and to encourage the privet sector to renual their hotels and improve their transport services, to have a great division chance of tourism cake (tourism arrivals), and to have sustainable tourism arrivals flow.

**Keyword:** selected Arab countries, tourism violence, climate change, comparative advantage, biodiversity.

**Jell classification:** C 53, J68, F11, P48, Q26, R4.

## I. INTRODUCTION

### Question and Importance of Study:

This study presents the question whether the tourism affected by these chosen variables, and have the direction of the relationship between these variables and tourist arrivals, also weather these variables are causing the fall down of the tourism arrivals numbers, or vise versa. Were these variables have extensively studied in the text of the paper. The present paper aims to determine the variables which are affecting tourist arrivals, moreover the pare specifically tries to answer the below question in general as:

Is there a long-term relationships between each variable as individually effect with tourism in the selected Arab Countries?, if so what is the causality direction of this relationship between variables and tourism arrivals, consequently the study attempts to verify whether variables apply to these countries are suitable to testify the relationship or not, were the importance of the study, and the importance of paper also stay on its outcomes, which can provide crucial results for the policy maker of tourism policy in these countries.

## II. ASSUMPTIONS OF THE STUDY

The  $H_0$  is the null hypotheses, were  $H_N$ : is the alternative hypotheses

$H_0 1 : H_0 = 0, H_N \neq 0.$

Tourist reacts negatively to increasing of prices of services and other expense of life in a country; they also react to the elasticity of demand.

$H_0 2 : H_0 = 0, H_N \neq 0.$

Tourism receipts (returns) can improve the comparative advantage of the country in negative direction or positive one.

$H_0 3: H_0 = 0, H_N \neq 0.$

Tourism arrivals react negatively to increasing of cloches and political repression and inter community tension and Islamic violence against local civilians and government states in these countries, in other hands the government violence against them.

$H_0 4 : H_0 = 0, H_N \neq 0.$

Tourism arrivals response negatively to climate change, unless the spill over changes of these countries.all these analysis make a sense of tourism flows to the country.

### III. PREVIOUS STUDIES

The (U N WTO ,1995, 1997 ), defined tourism as : the activities of tourist travelling to and staying outside country or in places outside their homes and usual environment for one consecutive year for many different purposes such as : leisure ,and business. The Significant effect of returns of tourism leads the planners and decision makers to focus on a particular city in the Arab world, whom the tourism concentrated in the ruins and see beaches ,beautiful mountains , desert tourism ,and other tourist places, due to the share of tourism returns on the domestic gross product , also it makes a new social dynamism such as new cash flow to the city's economy, and new spirit culture,also change the style of life in the city's economy.

The tourist who arriving at these city's needs some services as mobility and transportation , and restaurant of their privet trip , especially in long distance , large cities , and far away the ruins and tourist place , therefore it needs enough buses, metro, cars, and train travels . We have noticed that in congested cities with weak public transportation system,in the influx of tourist exerts additional demand pressure to available transport network .Many authors such as , (Prideaux , 2000 ),(Khadaroo and Seetanah,2007,2008 ). One of the specific reference articles to tourism is (Hall , 1999), Which makes some new idea for the transport system in selected Arab as a host country and has attracted attention to pressure on transportation and to aside of competition both tourist and hosts for local transportation.

(Page , 2005 ) he described the transportation and related tourism industry are supporting each others , and it's an essential utility for tourist movements and uses. Were (Kaul, 1985) in his research concluded that the accommodation and good hotel service are essential and integrated to gather for development of tourism arrivals to the country , and it should be grown and increases due to the number of tourist arrivals, in order to meet increasing of demand , and the recognizes the transport role in development of new attraction of tourists.

The planner must meet important result that will minimize the negative externalities which received by local citizens from transport congestion ,this happen during the Peak of tourist seasons ,also they can maximize the benefits which derived from tourist stay in cities by provide them by comfortable transport system and efficient services to cater for tourist needs (Hall, 1999, pp.181), emerge the supply side of tourist rolls of transport ,this can providing mobility with a tourist attraction, and can make linking market with tourist distention.

The other affect factor which affecting tourism is a comparative advantage which can give the country a good benefit from the tourism sector or less benefits, many theories have explain the increasing and rapid rise in global trade between countries, service sector is one of highest growth sector of global trade , also even greater growth performance , where the trade models abound to explain why some countries in there mutual trade export more certain commodities ,and other countries are not.

(Hickshare – Ohlin ) in his trade theory extended to new trade theory travel services , acting the proxy for tourism expenditure , therefore some sources of the comparative advantage has factors of production, such as natural environment ,measures of infrastructure levels , tourism prioritization ,health ,security situation , accommodations .and some dummy variables such as neighbor hood variables , Its clear neighbor security and natural environment has a positive effect on a country competitive advantages transport endowments.

The percentage growth of the industrial service over last 50 years is the serious trends in the international trade according to W.T.O reports has grown gy by 9.35 per annum since 2000, the industrial service sector has achieved close to 10.91 per annum, where merchandise and servicesector trade has exceeded growth of 12.3% per annum in the last 10 years.

As (Fourie, 2009) poor countries such as Asian and African , achieved and exceeded growth rates in their international trade above the world average , all authors show that travel services industry is an important catalyst in the developing country strategies as, (Nawak et al 2007), (Kima et al, 2006 ) , and (Sequeira and Nunes ,2008 )whom are concluded that the determinants of travel services exports, give rise level to a country's comparative advantages, were( Deardraff ,2005) has in his paper an overview of limitations of comparative advantage analysis . were (Jensen and Zhang , 2007 ) in their study says that all may have the requirement of tourism development services such as price competition ,relevance , environment of country , international hotel chains , tourism clusters ,and all factors that may drive a country's comparative advantage up position in the tourism travel industry.

The third factor affecting tourism is the level of prices and elasticity's of hosted country ,these represented in trade of country in this paper , some authors considered It the relative prices of a country ,but almost of the authors in this field are modeling their papers as the link of the basic demand function  $Q = f(Y, P)$ ,where Q is quantitive that measure of foreign tourist consumption of the products which are available in the country ,the important notice of this variable is the local tourist consumption is considered in the model due to the accountancy of in aggregate consumption of the country, and Y is income of the country, and p represents the relative price between the origin country and other comparable country.

(Jensen 1997 ) in his paper utilized of different relative prices between the origin country and destination country. And used as dependent variable the tourism returns s of the destination country from survey data , taken at the main border crossing , the alternative proxies in their account are over night spent of tourist arrivals. Real gross product defined as income of the origin country in many papers as (Wilson ,2000), and ( Siriopoulos , 1998). This definition and use faced many difficult, some authors see that the l disposable income of tourist and the income in the destination country would be used as a measure better than other variables , were others due to the difference contains of the basket of goods that tourist consumed during his stay in the country, and consumption of native consumers during th same period , such as (Witt and Martin, 1987) whom shows that Consumer pricing index can be used as proxy of the tourist cost of living variable in the country , (Wilson ,2000 )modeled his paper without the price substitution effect variable to

solve the model problem. (Witt Martin, 1987), who are considered the proxy for market variable, in the other hand this variable seems to be insignificant and can not be considered as indicator of tourist demand.

To have a sustainable growth of tourist arrivals, tourism planner should consider and in their account the environment changes, therefore the environment is an important element input for tourism services, these notice has been discussed in many papers e.g. (Jensen and Zhang, 2005), (Vietze and Freytag, 2009), who are lettered an empirical evidence that biodiversity and number of different species. These can be contributed to tourism revenue, and can help in promoting the area and enhancing the attractiveness of it to the visitors, and it can let the country in a good position of a comparative advantage index for tourism.

(Neto, 2003) his view sight that the most damaging in the evasive exotic species, can destroy or damage the local biodiversity with a negative effect. And many, also studies the effects of nature based on the tourism industry. ((Freytag and Vietze, 2009), (Castello, 2004) shows that It's important to invest into biodiversity to create incentives and to protect biodiversity and economic development in a country, due to the sustainable development of beneficial of tourism, (Arezaki et al, 2009) study results show positive effects of tourism on economic growth. (Eugenio – Martien, 2004), studied the tourism of Latin American countries, used panel, the data series of the study extended from 1985 up to 1998, they have estimated the relationship between tourist arrivals per capita, and economic growth. Were (Chao et al, 2005) based on a macroeconomic performance, assessing and measure the effect of tourism in GDP, employment and balance of payments, through analysis, they show that tourism that constitutes a recognized driving force of economic growth. Some studies present Gini coefficients of countries which studied in their paper as at least 0.30 as (Solvellet et al 2006), (Cotright, 2006), (Broesma, 2001). But (Capello & Nijkamp, 2011) define endogenous growth, and its in their opinion depend on the organization of the territory itself. Growth theory emphasis the various levels of high technology sectors as potentially (Cross, 2011). Many authors are stated many reasons to answer why tourism has an appositive affected factor in economic growth of a country, as (Modeste, 1994), (Chen & Chiou- Wie, 2009).

The results of the studies whether tourism causes economic growth and vice versa, or not is still conflicting and conclusion as the opinion of (Tang, 2011),

(Belloumi, 2010), these inconstancies are reflex of a country effect.

The fourth factor is climate changes between countries; therefore the atmospheric process will still vary in ways that are different to predict over both short and long time scales, the earlier discussions of global climate changes would have multiple consequences for human systems. The omission of carbon dioxide on climate change is well understood in the paper of (Houghton et al, 2001), human induced greenhouse effect, effect of motorized transport is caused by emission from burning fossil fuel, air transport can be other types of gas emission of nitrogen oxides, where air crafts imission must water vapor at cruising levels.

The total effects of climate change are measured by carbon dioxides equivalence factor, where the effect of all emissions divided by the effect of CO<sub>2</sub> only, surface transport as rail, roads and shipping the factor to them is 1.05 as (Cugela et al, 2003), where the equivalence factor of Jordan is 2.00, Egypt is 2.17, Lebanon is 1.98, and Tunisia is 2.03. The operational efficiency is increased and developed in the last 25 years which represents in:

- 1- Optimize the flight paths and change and control the speeds
- 2- Optimize the Network of the fleet composition.
- 3- Reduce the pollutions in factories and manufactures by using different types of filters.
- 4- Reducing the power of aircrafts – when they delay on take-off and before landing of aircrafts
- 5- Use catalysts in car and automobiles
- 6- Lastly, to reduce the effect most countries used the renewable energy such as the wind – solar power to generate electricity, but still lower the average of

These precautions are used to reduce climate change impact on transportation, road and air and to reduce air pollution. The fifth factor is violence and wars in the middle east, often in Syria, Libia, Isra'il, and Islamic groups who are against their governments, they attack soft target in the tourism sector in Egypt and Tunisia which occurred many time in October 2004, February 2009 in Egypt, and many times in the period of this study, also bingrdan state in Tunisia, were the tourism sector in Egypt accounted nearly 11.6% against (Vs) GDP, were in Jordan about 9.6%, Tounisia 12%, and in Lebanon 13%, if we includes the tourist spending during their stay in a country.

Even though the political violence which may be have a neiglible risk to foreigner tourist, and violence is one distention induced a substitution effect in these countries. These countries suffering from the political violence and not safer choices, while the whole region (middle east) suffering from the political violence and terrorism which can be perceived as risky, where in this situation can the foreigner tourists have a wide picture of violence and instability in this region, through the inter community tension if does not pose a direct threat to tourist, as ethical concerns which are raised in Yaman, Iraq, Syria, Libia, West bank of Pilistain. These situation regarding the governments treatments of the political opposition in these countries as (Naumayar, 2004). (Ito, and Lee, 2005), studied the effect of extraordinary events, showing the negative effects of the Gulf war I in 1991 to September 2001 attacks on U.S.A terrorism flow. This paper depends on the following recent researches.

Table (1): recent paper related to the subject of paper -

Authors	Main stated variables	Empirical method	Causal relation or results
Croes (20011)	%Touris	Poled unit	TD

		receipts / GDP, GDP per capita, investment, life expectancy	root, regression analysis in terms of log production function	economic growth
Tang (2011)	-	Tourist arrivals .Tourist receipts, nominal GDP	ADF Unit root, co integration, Granger causality	TD Economic growth
Katircioglu (2009)	-	International tourist arrivals, real exchange rate, real GDP	Unit root, co integration	No relation
Adamu&clerides(2010)	-	GDP, life expectancy, investment, government consumption, openness, fertility rate, inflation rate, tourism receipts / GDP	Regression of Panel data.	Tourism specialization TD Economic growth
D. Fielding&anja Shortland (2010)	-	American sample and European sample compare to Malta and Thailand	Restricted and un restricted model to correlation of errors	There is a bidirectional relationship between variables
U.N (2009)	-	From Davos to Copenhagen	Descriptive	There is evidence of tourism response to climate change
Crouch and Farrell(2001)	-	Geographical location factors	Regression	Tendency for firm similarity types of business to locate closer to gather
Swann and Prevzer (1998)	-	Industrial production, number of industrial firms	cluster	Innovation cluster and regional cluster
Ismail et al (2000)	-	Hong Kong economic variables	ADLM	Analysis of tourism demand

In this paper variables are omitted to four variables, as that the researcher considered that effect of prices and elasticity's are searched in the trade effect as the whole effect of tourist arrivals to the country. This paper organized as follow first part included introduction, were second part represents an overview and literature review of the paper covering the selected countries, the third section discusses the source of data and methodology of the research. Part four included the models and the empirical results, while the fifth part concluded remarks.

Section two: Literature review and brief notes:

#### IV. LITERATURE REVIEW

Tourism affected by the global growth and many factors, therefore it's important to have a look and pass through global growth in the period of study and expected projection of economic growth changes, the global growth rebound has pushed back in 2014, and 2015, below the table indicates to these percentage ratio in the table ( 2 ).

Table ( 2 ) : Global output, annual percentage change ( % ).

	2001-2008	2009 - 2012	2013	2014	2015	2016	2017 - 2020
	actual	actual	actual	actual	projection	projection	projection
world	4.2	3.3	3.3	3.4	3.1	3.6	3.9
Middle east and north Africa	5.4	4.1	2.3	2.7	2.5	3.9	4.3

Source : I.M.F : world economic out look, 2014.

The global growth factor for 2015 is largely driven by a significant lowering of growth prospects', where the Middle East and North Africa (Egypt, Lebanon .Jordan. Tunisia as selected countries in this paper) have materialized of side risks, has a shortening of external financing conditions and more geopolitical tensions and working on top of sharp, unanticipated retreat in oil and commodity prices. The growth rate has slipped down slightly copmerision to 2001-2008.

The growth of economy In the middle east and north Africa is predicated on a return (due to assign the geopolitical tension and on a recovery of investment confidence. Global inflation as I.M.F reports is expected to be subdued with consumer price, inflation in most of the Arab countries is not remaining in levels , also the inflation is projected to remain high in 2016, and 2017, due to rise of commodity prices and changes of prices in oil suppliers which is increased ,while the oil demand is slowed including industrial countries ,this happens due to weaker global activities, the prices of agriculture commodities eased or record or near record harvest for major crops, real commodities prices to large extent related back to their levels of the early 2005, were in the selected countries raised with at least 5% of 2005 year prices.

Table (3): Net capital inflows, weighted average percent GDP (%)

	2001-2008	2009 - 2012	2013	2014	2015	2015	2017 - 2020
	actual	actual	actual	actual	projection	projection	projection
Emerging markets countries	2.6	2.7	2.1	0.7	0.7	-1.5	1
Net of Transfers	0.87	0.54	0.23	0.24	0.32	0.26	0.31
Net Cash and Financial flows	0.93	1.68	1.7	0.4	1.3	-2.0	0.5
Direct investment, net portfolio	1.03	0.84	1.21	1.05	0.87	0.79	0.45
	-0.4	0.8	0.5	0.5	0.4	0.3	0.3
Other investment	-0.4	-0.5	-0.4	-1.5	-3.3	-1.5	-0.3
Memorandum(change in reserve assets)	-3.9	-2.9	-2.1	-0.4	1.7	- 0.2	-0.3

Source of table : I.M.F, staff estimate, world out look 2014.

According to table results policy makers strive for a macroeconomic policy stance that can be support growth, while in the same time buttressing privet sector confidence and containing risks in the financial sector, most of the middle east countries following sustained fiscal consolidation policy in 2008 – until now, a further planning of narrowing of balance sheet deficits is projected to bring the average fiscal deficit less than 10 %, beyond the monetary policy which has emerge to treat deficit and decided against the well-anchored of inflation expectations. Most of the sample study of selected countries are in middle east region and north Africa, therefore the macroeconomic policies of these countries should be studied, which are available in table ( 4 ) .

Table ( 4 ) : Macroeconomic policies of middle east countries and north Africa with adequate policy rating in percentage ( % )

Variables	2005	2013	2014
Fiscal policy	92	83	89
Composition public spending	57	33	33
Monetary policy	86	82	75
Consistency of macro policy	86	91	88
Access of foreign exchange	93	83	67
Governance in the public sector	71	75	67
Fiscal transparency	79	81	90
GOvernance in monetary policy financial institutions	93	84	78

Source : I.M.F : staff estimated, world outlook. 2015.

#### V. BRIEF NOTES ABOUT THE SELECTED COUNTRIES:

According to the report, which issued by U.N and central agency for public mobilization and statistics, the survival ratio for male in Egypt increased from 66 to 69 years, and for female 69 to 72.5 years, also the life expectancy of Egypt has increased between 2006-2014 with elderly men and women with an extra 3 years.

While life expectancy in Lebanon increased in 2014 to 79.37, this ratio for men reach 77.58 years ,and for female about 81.26 . While in Jordan and Tunisia it developed ,and has achieved some progression of life expectancy ,the below table shows this improvement in life expectancy in these countries.

Table (5): life expectancy of selected Arab countries

country	2010	2013	2014	2015
Egypt	72.8	73.1	74.05	75
Lebanon	78.47	79.13	79.37	81
Jordan				
Tunisia				

Egypt is located in north Arica it has 1.001.450 k<sup>2</sup> with 87.983 .000 people , and the country considered e as moderate population density with 87.3people per k<sup>2</sup> . Its national debt 259.081 million of dollars 85.98% debt to GDP in 2014, increased in 2016 to 272.161 million dollars as 88.71%, were the annual rate of CPI was in 2014 10.3% increased in 2016 to 14.5%, also Egypt in terms of HDI occupied 108<sup>th</sup> position of the world, were scurred 0.690 points in 2014, and has a 131 position of doing business ranking .

Jordan population of 6.675.000 people as one of the least populous country , located at western Asia with 89.320 k<sup>2</sup> squared , by nominal GDP, Jordan occupied 93 position , the national debt was 31.942 million of dollars increased in the first half of 2016 to 36.327 million dollars , debt ratio to GDP from 2014 not less than 89.05 %,were public debt per capita is 4.973 dollars in 2013 ,developed in 2014 4.973 dollars , this let Jordan to occupied 113<sup>th</sup> of doing business(as U.N ranking measures , were HDI index cites Jordan with .748 in 2014 leaving Jordan in 80<sup>th</sup> position of the world, the consumer price index of 2015 is -0.94, and 1n 2016 is – 1.21.

Lebanon also as Jordan located in western Asia , lied with 10.450 k<sup>2</sup> , so its one of the smallest countries , with 4.546.774 people, thus it's the one of the most populous country in the world .The nominal GDP of Lebanon is 46.731.million of dollars ,and 133.28%debt to GDP ratio , the consumer price index (CPI ) is -2.4 %in 2014 while in 2016 is -2.94, the country classified as human development index as 68<sup>th</sup> position , with 0.769points,and 123 position of doing business ranking.

Section Three : Data and methodology and models of study :

The date sources of this paper are collected according to each factor and its affected variables , and affecting factors which are affecting the tourist arrivals to Egypt, Lebanon , Tunisia , and Jordan ,each factor is searched separately, and the prices and elasticity's of prices are discussed with trade due to the relation between them , and with their Owen drawbacks , the data in general is collected from:

- 1 : Arab unified reports 2010, 2011,2014.
- 2 :U.N development indicators, for several issues
- 3 : I.M.F ,yearly book ,2012,2015.
- 4 : I.M.F,world economic outlook ,2010, 2013,2014.
- 5 : Tourism ministries in selected countries of this study.
- 6 : reports of tourism in U.N,2013,2014,2015.
- 7: Central banks of selected country reports 2010,2011,2013, 2015.
- 2 : Methodology and models of study :

Section four : empirical result and discussion :

We have used robust OLS analysis method to have the results of climate change which represents in returns of tourist arrivals to country , to measure the effect of climate change , below in table (6 ) the variable which are stated in the effect of climate change analysis.

Table (6) :

Variables	Description
GDPPC	GDP per capita ,market price 2007.
POP	Population of the country in millions
STAB	Stability index value (average - 2 to 2)
Beach	Beach length by km.
ProtectL	Protected areas in hectares .
NHCR	A Number of heritage sites
TEMP	Temperature monthly mean (cent grade )
WTED	Rainy days per month
Cloudy	Mean of cloudy days per year.
sunny	Average mean of sunny day / year.
Snowy Days	Average mean snowy day / year.
Distance	Average kilometers between ruins and capital city / km.
M1	For Egypt 1,others zero.
M2	For Lebanon.
M3	For Jordan.
M4	For Tunisia.

The results of analysis in table ( 7 ).

Table ( 7 ) : OLS regression result of climate change .

Dependent variable : Tourist Arrivals.

Constant : 2.4653.

Estimate variables	Coefficients	T- ratio
M1	-3.024E-01	- 1.653
M2	-2.939 E-01	-1.016
M3	-1.873 E-01	- 0.961
M4	-0.9642 E-01	-0.7332
GDPPC	-4. 2506 E-01	2.481
POP	- 3.613 E-02	-0.752
STAB	2.8775 E-04	1.9631
Beach	4.1201 E-02	3.1854
ProtectL	-5.6003 E-02	-1.675
NHCR	4.1906 E-02	2.943
TEMP	3.502 E-02	3.168
WTED	1.2443 E-03	0.934
Cloudy	4.008 E-03	1.732
sunny	3.6055 E-02	1.482
Snowy Days	-2.1098 E-01	-2.264
Distance	5.1397	-1.521
R-Squred	0.6788	

The results of table above indicates that temperature highly significant, however the temperature in Alagsure of Egypt , and Aqaba in Jordan , and south valley of Egypt in summer session not less than 44.5 at an average. Therefore the optimal temperature tourist demand as arrivals and temperature, a state of discomfort will occur if the temperature , particularly in combination with high levels of humidity.

According to the climate attractiveness in summer season Tunisia and Lebanon is more attractiveness for tourism arrivals, but Egypt sharm – alchekh , and Ras Mohammad port , petra in Jordan ,Aqaba gulf in Jordan .so it is possible to examine the impact of these changes on the attractiveness of destination using the results of table , the researcher use arbitrary scenario to illustrate the effect of climate change ,the paper not investigated the travel cost , but we used instead variables like as distance between capital city and ruins places and country characteristic was extended to protected areas and stability of country as a proxy variables to measure safety and culture attractiveness. As the table results Lebanon and Tunisia are more attractive for tourist , less of violence and destination characteristic of countries that have a positive relationship with tourist demand , but in other hand Egypt has varied of ancient civilization , farriers ,Roman ,Greek,Islamic , while Jordan has few of these ruins . Finally, we notice that other effects can demonstrate the tourist demand ,such as sea –level rise or flooding , snow fall for skiing as in north of Lebanon. The R – squared is good, this mean that independent variables in the study explain nearly 70% of changes which happened in tourist arrivals change, all variables are significant, therefore these variables has an important impact on a country's climate change.

The other effect represents in violence and stability m (fleisthorand pizam ,2002) they have in their paper examined the response of a country ,they have assigned that its too important information if the government provides a subsidy to the tourism sector, in response due to tourist attacks ,therefore the violence against tourist in all selected Arab countries were reduced due to government response to violent events. Also. Some authors as (Neumayer ,2004)who argued that tourist may also may put off by the repression of opposition movements ,and human rights abuses.

In this second factor effect,we have used logarithms of variables to check the violence response of tourist against , regression for data of the selected countries as a generalization of the Weibull distribution ,so the model can be as following :

$$F(e_{i1t}, e_{i2t}, e_{i3t}, e_{i4t}) = \exp(-G).$$

$$\text{Where : } \exp(-e_{i1t}) + \sum_{m=2}^{n=4} \exp(-e_{imt})^{1/1-\lambda} \dots\dots\dots( 1 )$$

$0 \leq \lambda \leq 1$  , where  $\lambda$  capture the likeness degree among the number of group locations in the country. In this paper researcher depends on single equation which determined as non linear with:

$$\ln(e_{it}) - \ln p_{4t}; e_{it} + \lambda \cdot (1-p_{it}) - \ln p_{4t}) \dots\dots\dots( 2 )$$

The results of the analysis are available in table (8).

Table ( 8 ) : regression analysis of violence

Data from : 2000 – 2015

Dependent variable: Tourist arrivals.

	Unrestricted		restricted	
	Coefficients	T – ratio	Coefficients	T – ratio
Ln (Pm / Pn) -1	0.3726	3.162	0.5213	6.371
Ln (Pm / Pn) -2	0.3255	3.014	0.4277	6.089

Ln ( 1 +cas ) -1	0.0214	0.0123		
Ln ( 1 +tkw ) -1	-0.0735	0.01843		
Ln ( 1 + iki ) -1	0.0214	0.1392		
R 2	0.7815			
R -2	0.6412			
Log likelihood	55.693			
Normality test	$\chi^2$	2.0194	(0.4213)	
Reset test	F = 2.1342	( 0.1476 )		
Arch (1) test	F = 0.0238	(0.8746 )		

As it seems the model is dynamic regression by plotting the impact response of  $\ln(\text{pmt}) - \ln(\text{pnt})$ . The plots depend on the coefficient values in both procedure restricted and unrestricted regression OLS. A common feature of tereatory situation in rhes countries is temporary that increased of violence in Egypt ,Lebanon ,Jordan, and Tunisia ,also philistine are chocks to a stationary violence series m but we notes that after wards ,tourist arrivals number have dropped down from their initial levels, even though there is lag of number of tourist arrivals to these countries in few months as seasonality demand for service of tourism sector, in addition to the tourism violence which rises and reach the peaks in these countries , which happens to the tourists in many countries and repeated , thus the response of tourist and the equivalent reaction of tourist their selves .

Most parts of table analysis are significant , and other part of a table reports the results of parameters of the variables in the equation, however our diseur to minimize the Akike criterion for the regression, therefore we should use the restrictions, the coefficients are stationary, and statistically significant also in the unrestricted model . the result of autocorrelation in the residuals of regression indicates that there is null of zero autocorrelation , as results the null hypothesis cannot be rejected , also one can reject that null hypothesis of normality distribution of residuals , other results assigned that there is no significant response of tourist number to changes in politically motivated arrests by security forces in these countries. Even in short term ,especially in Tunisia and Egypt. The political challenges in the selected countries are vary between one to other, and between time to time in one country.

The third model represents the trade effect which included the price effect and the elasticity of country level of prices of materials which consumed by the tourist on country trade . in the recent years there is a great interest of research the relationship between trade of a country and openness , and the increased of international trade,and the travel of tourist and vice versa , whereby ,the relationship says that tourism affects global trade may be in several paths , moreover ,tourism in general can provide information of technology and may improve the products of a country , also create new opportunities for a country trade out side country , therefore tourism has appositive influence on a country visit , all of these advantages reflected in the trade balance.The third hypothesis related to effect of tourism and trade relationship, whether there is a relationship between tourism and trade variables on long run elasticity the hypothesis is :

$H_0 : \beta = 0$  , the null hypothesis which applied in the paper, its elasticity between tourist arrivals and trade is significant statistically at the 5% level. The tourism variable and trade variables series are normally distributed and stationary, this can let us to modeled them in a stationary state by using the suitable econometric procedure, therefor the drawing conclusions of analysis avoid the spurious results. A panel unit root test has been used to the single series , which can be demonstrated as :

$$\Delta y_{it} = a1 y_{i,t-1} + \sum Si \Delta y_{i,t-j} + X_{it} \beta + U_{it} \dots\dots\dots( 3 )$$

Where :  $y_{it}$  follows the  $i = 1,2,3, \dots,N$ . the cross section of the series , a represents the mean coefficient, m represents the leg length of the autoregressive process .  $X_{it}$  is the column vector of endogenous variables and U it is the series disturbance.

To estimate the data we should insure if the data stationary at level or at first difference , Levin – Lin Chen (LLC ) test used and ADF test , the results of the analysis are available in table (9 ) .

Table ( 9 ) : unit root test Levin – LinChan test and ADF test

Variables	Egypt (LLC)	Egypt ADF	Jordan (LLC)	Jordan ADF	Lebanon (LLC)	Lebanon ADF	Tunisia (LLC)	Tunisia ADF
Tourist arrivals	3.25 (0.09)	13.29 (0.87)	4.56 (0.000)	12.73 (0.94)	3.92 (0.034)	14.53 (0.54)	2.93 (0.000)	15.72 (0.84)
Trade	6.542 (1.02)	37.84 (0.93)	5.763 0.476)	21.47 (0.58)	4.23 (0.043)	14.58 (0.76)	3.47 (0.00)	15.43 (0.09)

N,B: The LLC and ADF results are in trend , results in brackets are P- value.

When we check the series of both trade variables and tourist arrivals for each country in fixed method on both LLC and ADF , the series as econometric series are in first level non stationary, ,thus we can observe that all series as before are presented a unit root , therefore we implied the Co integration between variables , due to the integrated between series. The Second step of estimation is to use dynamic estimation of tourism and trade variables by using the error correction model , the model can be expressed as follows :



$$Y_{it} = \mu_i + \sum \lambda_{ij} y_{i,t-1} + \sum \sigma_{ij} x_{i,t-1} + e_{it} \dots\dots\dots(4)$$

Where:  $e_{it}$  is the disturbance,  $\mu_i$  are the fixed effects, and P the autoregressive and a. The EC panel model can be as follows: distributed polynomial lags

$$It y_{i,t-1} + \beta_1 I X_{it} + \sum a_{1ij} \Delta y_{i,t-1} + \sum \beta_{1i} \Delta X_{i,t-1} + v_{1i} + U_{it} \dots\dots\dots(5) \quad t = Y_i \Delta$$

Where :  $i = 1,2,3,4$  indicates for selected countries.  $y_{it}$  and  $x_{it}$  are  $I(1)$  variables,  $\phi_{it}$  is the error correction coefficient,  $\beta_{1i}$  is the long run parameter  $p_1, q_1$  are the length of the autoregressive distributed lag model,  $a_{1ij}$  and  $v_{1i}$  represent the country specific intercepts,  $u_{it}$  is the innovation. Thus, if there is Co integration between  $y_{it}$  (tourism) and  $x_{it}$  (variables of trade), the error correction model can be utilized to test Granger causality. The cointegration can be viewed as indirect test of long-run causality, and the equation estimated using the maximum log likelihood procedure. Results of estimation in table (10).

Table (10) : panel estimation results and Granger causality test for tourism and trade variables : for each country = tourist arrivals / total export.

Variables	Egypt	Jordan	Lebanon	Tunisia
constant	3.162 (4.53)	4.0359 (3.765)	3.9784 (3.910)	2.8976 (5.365)
E t-1Δ	0.2143 (3.147)	0.6553 (2.45)	0.5423 (4.17)	0.6943 (4.28)
E t-2Δ	0.0362 (0.732)	0.1554 (0.823)	0.08745 (1.153)	0.3257 (0.887)
At -1Δ	-2.094	- 1.892	- 2.218	- 2.843
Y t-1(*)	-0.3543 (11.328)	-0.2875 (15.643)	-0.4573 (13.54)	- 0.5462 ( 15.73)
$\beta$	1.2347	1.9875	1.5476	1.4765
Ho: $\beta=0$	(22.16)	(18.76)	( 16.84)	(15.42)
$2 p\chi$	6.173 (0.034)	5.322 (0.045)	4.678 (0.042)	3.656 (0.0254)
	15.41 (0.082)	11.38 (0.0064)	10.75 (0.092)	13.47 (0.0065)
Housman test	0.49361 (0.473)	0.6321 (0.564)	0.7564 (0.624)	0.9543 (0.638)

P – values are appear in brackets.

The procedure applied to series according to the order of Akiak criterion results which are (3,3) results in robust with respect of the other lag structure. According to the results of table (10), the homogeneity of series cannot be rejected, hence the estimated of the model are efficient, Housmann test results shows that in all selected countries, apart of relationship of total export causes by tourist arrivals and departures, related to the hypothesis the coefficients are statistically significant in all countries suggestion that there is exists a bilateral long term relationship between trade and tourism. the adjustment  $\phi$  has insignificant negative sign of coefficient, this means that is due to long-term equilibrium. The long run coefficient P is significant in all countries results in the study. Moreover it always presents positive sign, this can suggesting that there exists of a relationship between trade and tourist arrivals, and the  $\beta$  parameter is significant strengthening the evidence of co integration among trade and tourism. The short run causal nexus between trade and tourist arrivals show an associated with Granger causality between tourism and trade variables. Finally the null hypothesis is rejected in all country series, suggesting that long run causality or both exist in the analysis.

The fourth factor is the comparative advantage of selected countries through the effects of tourism, which in many variables exhibit a revealed comparative advantage in tourism, travel services, some of the results of research draw a dark map band as violence in the area, also the nature of economics is widely differ between these selected countries in size and structure. The result of comparative advantage in these countries seems to support the international trade theories, which can be at least partially explain why some countries rises the export and import and others not.

(Balasa, 1965) depends on Ricardos view sight into the fact that trade benefit countries that specialize in the production of goods and services with lowest opportunity cost, from this idea Balasa suggest his index, which formulated as :

$$Rca_{ij} = (X_i / \sum x_{ij}) / (\sum X_{ij} / \sum \sum_j X_{ij}^2) \dots\dots\dots(6)$$

Where :  $X_{ij}$  is present the export sector I from country j. The  $CA_{ij}$  is the comparative advantages of country I from country j.

(Leung and Cai, 2009) they have developed a standard measure for more prices and comparison across time, countries and commodities, as normalized revealed comparative advantage (NR  $CA_{ij}$ ), which can be written as follow:

$$NR CA_{ij} = (X_{ij} / \sum \sum_j X_{ij}) - (\sum x_{ij} / \sum_j x_{ij}) / (\sum \sum_j X_{ij}^2) \dots\dots\dots(7)$$

Heckscher –Ohlin proposed a formula can make through its explanatory, where a country's which have a comparative advantage, it's a function of its resource endowments . The comparative advantage formalizes the idea that a country I which has a comparative advantage in good j is determined by ( Li : Labor ) , (Ki : capital ) , (Ni represents the natural environment ) , and Ri which represents the vector of collections of other resources :

$$NRCA_{ij} = f ( K_i, L_i, N_i, R_i ) \dots\dots\dots(8)$$

In our analysis we have used some variables such as GPC :national Gross domestic product per capita , GFCF :Gross fixed capital formation , POP :population , employed labor , intensity \_ emp : the ratio of GFCF over employed . intensity \_ pop : ratio of GFCF over population , then natural heritage :is the number of natural world heritage sites of each country, democracy index 7 high level and Ito low . Crime : international homicides per 100.000 people. Exchange rate purchasing power parity conversation factors 2011. Transport capacity: an index of transportation for each country in 2011. Coasts: coasts of hotels and other services for one day and night sleeping in a hotel. The results of the analysis are stated in the table (11).

Table (11) : The determinant of comparative advantage in selected Arab countries

Variables	Egypt	Jordan	Lebanon	Tunisia
Constant	0,0132*	-0.2655*	-0.394*	-0.1633**
GFCF	-1.59E-10**	-2.36E-10**	-1.44E-8*	-3.25E-9*
GPC	-0.4876*	-0.6337*	-0.6521*	-.5322*
Employed	-0.4876*	-0.5638**	-0.4561**	-0.5357**
Natural heritage	0.08151**	0.1223*	0.4541*	0.5933**
Coast	-0,00986*	-0.08743*	-0.0754*8	-0.06551*
Transport capacity	0.0376**	0.0476*	0.865**	0.0754*
Exchange rate	0.5401**	0,0652*	0.042*	0,121**
Crime	-0.157**	-0.453*	-0.218*	-0.342*
Democracy	-0.324*	-0.231**	-0.423*	-0.563*
Corruption	-0,0098**	-0.148*	-0.0397**	-0.0674*
R 2	0.674	0721	0.823	0,692

\*, \*\*: significant at 5%, 10% level.

In this table, we have regressed the series, and obtained the results for travel service trade residuals then robust slandered errors is used . The results are support the applicability of the augmented Heckscher – Ohlin to their idea of travel services of the natural environment is found to be a significant and positive sign ,controlling for other factors capital and labor and population don't influence the comparative advantage of these selected countries . The results suggested that the country with a large natural resource should specialize in tourism services , while corruption and crime effect the comparative advantage, but this effect is weak effect, but democracy power is strongly effected tourism , beyond the purchasing power parity . R2 results for all countries are good; therefore the independent variables are explained the changes of the dependent variable (tourist arrivals) in these countries.

The below table can summarize the comparative advantages for each country and NRCA.

Table (12): comparative advantages and NRCA of the selected Arab countries

Country	Comparative advantage effect tourism	NRCA
Egypt	Strong	0.000213
Jordan	Moderate	0.01465
Lebanon	Strong	0.002197
Tunisia	Strong	0.00345

Finally, tourism infrastructure can add to the comparative advantage, also bounded to other factors can improve this advantage.

### VI. CONCLUDED REMARKS

Results of analysis of tourism variables represents an obvious demand pressure of total demand of the selected Arab countries, and demand pressure also in mass transpiration in these countries, this does not directly effect the supply decision regarding to improve the transportation and roads in these countries, and drive improve and developed of tourism services due to draw planning strategies which could be depends on the incentive provided of these countries, however, tourist arrivals of these countries coincide with peak-time periods in the public and privet sector of transportation and make great pressure in summer season. In general tourist arrivals as results of analysis imply a negative externality effect on local users of puplic transportation, and access un comfortable ,were this additional demand make a pressure merely aggravates the social coast of transportation in the congested period. In consequences the 4th factor is the comparative advantages,the paper finds an evidence that the theories of trade such as Heckscher – Ohlin hypothesis are still has the validity if empirical revelance, and if augmented to include natural environment, we fund in this paper that being endowed which natural resources as Egypt increased a country's relative comparative

advantages. We can notice that this due to the law of comparative advantage, who says a country with a favorable natural sources and environment should specialize in tourism goods export rather than the others of exporting other goods and services, where capital and labor can add more comparative advantage for tourist arrivals due to the distinguished services, where other variables may add some improvement in tourism demand such as infrastructure and low prices of services.

The other results of analysis in this paper indicate that climate changes would lead to a gradual shift of tourism destination toward higher latitude, and imply that the currently dominant group of tourists, also Arab governments should take into their account the individual tourist movement which may be projected in their plans into the future, in general tourism is an important driving force of global environment changes, and they should record the human impacts on the environment and toward climate changes. In the empirical analysis the causality between tourism arrivals and trade in the long term and short run may have a long term of bidirectional relationship between tourism and trade in all selected Arab countries in this study, this result it seems to exist a complementary link between them, also the results imply a positive effect with respect to the short run causal nexus, international trade can promote business and increase the international trade between countries and increase the number of tourist visitors between them.

The relevance of these results may reflect business strategies of these countries to capture more benefits from the complementary link between trade and tourist arrivals. Furthermore, the researchers in the future papers can analyze the price and elasticities for tourism, this can make sense for the selected countries to preserve their biodiversity, also this paper neglects some variables which are not considered in this paper, but they are affected by tourism such as the changes in preferences, age, structure of tourist arrivals, working hours, life style of tourists, these variables may affect tourist behavior, moreover, empirical studies of these variables is expected to make a contribution in their studies.

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