



Tourism-led growth hypothesis: A case study of some North African countries

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Abstract

This study aims to ascertain how to measure the impact of tourism on economic growth in the Maghreb countries including Morocco, Tunisia, and Algeria. The purpose was to analyse the outbound tourism effect on economic multivariables using panel data techniques (fixed-random-effects mode). Based on (TLGH) tourism led growth hypothesis, the current study investigated the linkage between international tourist arrivals and economic growth. Data was collected to run a panel study. The results show a positive relationship between tourist inflows and GDP, labour market and expenditure for the period 1995-2016. However, a negative sign was uncovered in both country risk effect and exchange rate variables. The study is of practical relevance since there are very few researchers who have tried to explain the tourism-led growth hypothesis in the North Africa region. The study also suggests new policies to be applied to increase tourism attractiveness in the region in question.

Keywords: Tourism, risk, hospitality, geographic situation, tourism industry, Maghreb.

Introduction

Tourism has recently witnessed surprising growth and exceeded that of various economic sectors. During the last decades, the global tourism industry reached a fast growth rate. According to UNWTO forecast, international tourism may reach more than 1.8 billion by 2030 and approach a rate of 3.3% a year. As a matter of fact, the industry is playing a great role due to the multiple benefits brought by tourism, not only in the whole economy but in the (GDP), of many countries economies in the world and in their growth rates (Mathieson & Wall 1982). Actually, there is an increasingly growing competition among the different continents and among countries which attract more international tourists, for example, analysts predict that consumer spending on tourism, hospitality, and recreation in Africa alone will reach about \$261.77 billion by 2030 and that competition will be fierce.

This research is an attempt to measure how tourism as a main industry is relevant to Maghrebian countries in general, and to attract attention to policy makers on how important it is given the economic benefit of international inbound tourists especially on some selected Mediterranean countries for this study. These include Morocco, Algeria, and Tunisia, which together represent a strong tourism bloc for the north African region. Most Tourists are motivated by the feedback received from previous tourist impressions about a touristic country or region or from mass media and touristic agents advertisement reports to a particular



destination, and where they expect their needs will be satisfied (Bowie & Chang, 2005). Of course, there are various determinants and aspects, which inspire people to travel. Human beings have been involved in tourism for centuries. This phenomenon started with mankind moving from place to place and the hospitality given to guests, whatever their nationalities, race or religion. Tourism was always a part of various ancient civilizations where people were fond of discovering other peoples traditions and even exchanged goods, buy other clothes tasting diverse foods and learn unique cooking styles. Many people, rich and poor used to free themselves to travel on foot and they had a special place and special days (weekends) to discover other spaces. So, from the ancient periods and even during the medieval period, tourism has existed under different names and forms, and today, it has become a science and an important source of national income and a mirror that reflects any country's civilization and growth. Urban tourism and other forms of tourism in many countries remain very high and most people like to spend holidays in famous cities, meeting friends, sightseeing, and obtaining discounts and cheap accommodation services which can attract thousands or millions of national and international tourists (Gmelch & Kaul, 2018). As a matter of fact, tourism attraction depends on a lot of actors such as economic structures, people hospitality, food, hotels, and other factors which may influence tourist destinations.

Recently, tourism became a prominent economic and social phenomena and became an important component of the economic structure of many developed and developing countries from mainly the 20th century due to its positive effects at the macro and micro impact levels (Inkson & Minnaert, 2018). Besides, many countries in the world have built a tourism hub and this huge sector became an important source of foreign currency and it also participates in poverty alleviation. Actually, there is numerous empirical research on international tourism demand which has focused on tourism in developed countries and it has neglected many of the countries from North Africa and also Middle East countries although they have huge potential for tourism. In this paper, we discuss the barriers and limitations faced by the African continent, and specifically North African countries which have and continue to suffer political instability, terrorism, and are tainted by a lack of suitable infrastructure.

Literature review

In this paper, we try to provide evidence and make a contribution to the existing literature about the tourism led growth hypothesis (TLGH) for a wide range of developing countries. But we focused on some North African countries in particular. As we discovered, most researchers have argued that TLGH was first derived from the export-led growth hypothesis (ELGH) that illustrates that economic growth can be generated not only by adding more amounts of work and capital within the economy, but also by boosting exports. Yıldırım and Öcal, (2004) studied the effects of tourism revenues for Turkish economy growth for the period 1962-2002. The findings showed growth-promoting effects on tourism in the long-run, and a negative significance in the short-run relationship between tourism and economic growth. According to Shahbaz, Tang and Shabbir (2011) the tourism-led growth hypothesis (ELGH) is vital for Malaysia and depends on applying a serious tourism marketing policies. Their study was based on data from 1995 to February 2009. Obviously, it is still hard to understand tourists' behaviour which remains like a 'black box' in one's impressions about destinations in the Tourism Barometer. Generally speaking, most tourists are influenced by their environmental culture and look for an area and lifestyle which responds to their needs (Cha, McCleary & Uysal, 1995). It is a conditioning of the tourist towards a specific destination.

In reliance on over 100 peer-reviewed published papers on the TLGH (Brida, Cortes-Jimenez, & Pulina, 2016) focused on existing tourism resources to confirm the validity of the tourism-led growth hypothesis. Tourism growth exceeded the expectations of the World Tourism Organization for 2018 since the international tourist arrivals grew 6% in January-April 2018



and realized more than US\$ 1,332 billion globally in 2017. Sharpley(2018) anticipated growth between 4% and 5% in 2018. Moreover, the tourism industry expects to support approximately about 380 million jobs globally by 2020.

One of the oldest definitions to tourism states that it is not important to travel abroad to feel like a tourist (Urry & Larsen, 2011). People often go on a trip out of their home country and spend foreign currency derived from their home area (Cohen & March, 1974). Since 2014, many authors in different articles define tourism according to the UNWTO, (2014: 12): “A visitor (domestic, inbound or outbound) is classified as a tourist, if his/her trip includes an overnight stay”.

Recently, the tourism sector offered real opportunities to investors in a very prominent market. It can be either international or domestic but in all cases, tourist activities constitute an economic driver for various African countries (Doolin, Burgess & Cooper, 2002) where authorities should adopt a new economic model based on the diversification of incomes. For example, the Algerian policymakers didn't succeed up today to break up the reliance on oil revenues and replace it with an exploration of the tourism industry potentialities. Anyway, before analysing and quantifying the effects of tourism on growth, GDP, employment and other macroeconomic aggregates, we must first present some definitions for this social phenomenon which continues to be increasing and which constitutes a key field of investigation in a multitude of economic disciplines (Blancas, González, Lozano-Oyola & Perez, 2010). In the static framework, and to summarise a set of literature views underlying this study, we can first agree that there is not yet a common definition, but researchers agree that sustainable tourism is a continuous process and of course it needs constant monitoring of impacts beside introducing all important preventive measures each time is possible. Sonwabile Henama, Jansen van Rensburg and Nicolaidis (2016) propose that tourism sustainability is possible if destinations offer authentic educational and experiential value; collaborations are managed between managing authorities, commercial enterprises in proximity and the community and partnerships are built around mutual beneficial relationships that balance revenues, conservation and economic development.

Miller (2001), studied not only the importance identifying criteria that most directly influence tourists behavior and their choice and place of holidays, but also the indicators that promote newer sustainable shapes of tourism. As a matter of fact, no country can ignore the impacts of tourism on natural, economic, social, and cultural resources. Tourism has also defined the action of traveling to another place that is different from one's usual environment for less than a year, and not only for leisure or business but also for other purposes as well (Vanhove, 2011). In recent literature, tourism motivation and typology emerged in many papers to explain this phenomenon which has spread rapidly over the world (de Souza Bispo, 2016). Understanding what drives tourists is an significant issue which can make or break a destination. Since tourists consume products and services and return visit/s and sustainability are wanted by destinations, it is important to identify variables that inspire their motivation, behaviour and satisfaction levels (Grobler & Nicolaidis, 2016).

In this paper, we want to examine the international tourism-led growth hypothesis in north African countries as mentioned in Ramukumba's, (2018) article and as a UNWTO tourism highlight 2018, which reported that International tourism to North Africa climbed to 63 million by the end of 2017. It also mentioned that most countries showed a strong performance. Many researchers have studied and tried to determine the determinants of the tourism industry and the overall long-run in economic growth of Africa using co-integration and error correction mechanisms, besides testing for the direction of causality. For example, Fayissa, Nsiah, and Tadasse, (2008) investigated through a panel study, that the receipts from the tourism industry contributed in the economic growth of Sub-Saharan African countries. Their study covered 42



African countries from 1995 to 2004. They discovered from using an empirical analysis that the tourism industry contributed positively not only in the current level of gross domestic product but additionally in the economic growth as well. Kareem (2013) developed a dynamic panel called a generalized method of moment (GMM) analysis to reassess the Tourism-Exports Led Growth Hypothesis in an Africa study. He studied the relationship and the direction of causality between international tourism exports and economic growth in Africa. Nicolaides (2006), says what is needed is effective ethical leadership in tourism as this promotes tourism visitation and boosts income from tourists. Akinboade and Braimoh (2010) investigated the tourism – led growth hypothesis, and they suggested that there is real causality between tourism and economic growth in South Africa.

The pillars of tourism

Generally speaking, Tourism is based on three principle criteria :

- Moving outside in order to discover another environment (Poon & Lock-Teng Low, 2005)
- Tourism as a multi-dimensional sector and an part of cultural and intellectual contracture. It also helps to improve creativity and one of the main needs for modern life. Tourism occurs for any purpose and now days has expanded to include many diverse aspects.
- Duration: only a maximal duration is mentioned, not a minimal.

Table 1 - International tourism, number of arrivals (Million)

Data	2008	2009	2010	2014	2015	2016
Africa	44.40	45.90	50.40	55.20	53.80	58.20
Mid/ E	55.20	52.80	55.40	55.40	55.90	53.60
Asia & P	18.42	18.11	20.55	26.44	27.93	30.29
Americas	147.80	141.70	150.10	181.90	192.70	200.90
Europe	485.20	461.70	489.40	580.20	607.50	619.70
World/ B	916.7	883.2	950.8	1.14	1.19	1.24

Source : UNWTO Tourism Highlights: 2017 Edition

According to table 1, we notice that international tourist arrivals grew in most destinations in the world. In Africa tourist arrivals have increased from 44 million in 2008 to more than 58 million in 2016. In America, the number of tourists reached more than 200.90 million tourists and A total of 1.24 billion were recorded in around the world by the end of 2016. The tourism industry has emerged as a hot topic of discussion since the early 1990s (Rogerson, 2018). As a matter of fact, the concept of tourism has had a strong relationship with most vital fields, such as sociology, economics and the environmental areas and it has even had a great impact on the present and the future life of various generations. Therefore, there is no on unique definition for tourism as a branch. Researchers offer lot of definitions which vary according to the cases studied. Some researchers focused on a high level of tourist satisfaction and how to leave positive impacts for and from the tourists. Other definitions concentrate on economic, environmental and cultural aspects of tourism development.

According to the (AIEST), tourism comprises three distinct elements.

- Commitment in travel of non-residents,
- Stay of a temporary nature in the area visited.
- Practising activities which may generate extra earnings.



The tourism industry can also be divided into three types, the first category is educational and the second category is leisure while the last one is for business purposes.

Tourism and economic growth

Tourism is one of the most important sectors that contribute to the economic growth of various developed and developing countries in the world. According to (Eugenio-Martin, Martín-Morales & Sinclair, 2008). This huge industry is increasing fast and is considered by some experts and economists as a wealth which won't be depleted. It contributes to the creation and encouragement of the Mediterranean region and small enterprises as well as the services sector such transport sector, hotels and restaurants (Manhas, Manrai & Manrai, 2016). It has some vital value in that it:

1. Increases the economic benefits through creating job opportunities in tourism sector and small and medium projects.
2. Saves the eco system and enriches its diversification as an important factor which encourages environmental tourism.
3. The application of policies that ensures the participation of the citizens in managing their tourism activities to develop or produce a new tourist service is supported.

We agree that talking about fast-growing destinations in particular famous countries in Europe, Asia, and Africa, depends on their historical places and the diversity of their culture and of course their charming nature as well. Many tourists spend weekend trips in old towns and well-known lakes and waterfalls in any peaceful area in the world. Greater sustainability in tourism is related to digital advances and innovation and this increase in the 4IR (Mpofu & Nicolaides, 2019). As a matter of fact, the investment in digital technologies may foster and increase the entrepreneurship in tourism.

Table 2 – Contribution of tourism.

t Direct Contribution of Tourism		t C Indirect Contribution	In Induced Contribution						
Industries	- Acco/ Services - Food & Beverage Services - Retail Trade - Transportation Services - Cultural, Sports & Recreational Services	- Private tourism invest spending - Government collective tourism spending - Impact of Purchases from Suppliers	- Food & averages - Recreation - Clothing - Housing - Household Goods						
Commodities	- Accommodation - Transportation - Entertainment - Attractions	TOTAL INDUSTRIES Travel & Tourism contribution Travel & Tourism <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">✓</td> <td>Economic Impacts</td> </tr> <tr> <td style="text-align: center;">✓</td> <td>Environment Impact</td> </tr> <tr> <td style="text-align: center;">✓</td> <td>Socio Cultural Impacts</td> </tr> </table>		✓	Economic Impacts	✓	Environment Impact	✓	Socio Cultural Impacts
✓	Economic Impacts								
✓	Environment Impact								
✓	Socio Cultural Impacts								
Sources of Spending	- Resident's Domestic Spending - Business Domestic Travel Spending - Visitor Exports - Individual Government Tourism & Travel Spending								

Source: WTTC (2012)



Sustainable tourism is the best use of tourist sites with a balanced numbers of tourists at most sites and being aware of the importance of tourist areas visited in order to behave and deal properly to prevent damage .Sustainable tourism also meets the needs of tourists, as it works to preserve tourist areas and increase employment opportunities for the local community (Grobler & Nicolaides, 2016).

Tourism industry flourishing in North Africa

Within the framework of economic diversification pursued by North African countries, for the purpose to get out of the circle of dependence on oil revenues, the tourism sector has become the dominant segment for most north African countries including Algeria, Morocco, Tunisia, Libya, Sudan and Egypt. In addition in many sub-Saharan countries the investors' confidence has returned as seen through the large growth in the number of hotels and the return of foreign direct investment (FDI). This has allowed these countries to build up gigantic and titanic infra-structures, such as hotels, charter services, and airline access.

Table 3- hotels chain in north Africa (rooms/ thousands)

Years	2015		2016		2017	
	Hotel	Rooms	Hotel	Rooms	Hotel	Rooms
North Africa	79	18.565	87	19.971	107	23.936
Sub-Saharan	191	31.150	278	44.260	310	48.980
Total	270	49.715	365	64.231	417	72.816

Source: UNWTO Tourism Highlights: 2017 Edition

In table 3, we see that the number of hotels increased from 270 in 2015 to 417 hotels in 2017, which explains that the continent and especially North Africa and the sub-Saharan countries are viewed as a great attraction to international tourists and this is shown by the by large numbers of rooms in internationally-branded hotels. Numerous studies have demonstrated that North African tourism will increase during the coming years especially because most of these countries have managed to overcome the period of political instability, terrorism, and uncertainty which marked the region (Pandy, 2017). The tourism market demand great enrichment in different types of tourism options such as nature, adventure, culture, historical heritage, beaches, ecotourism, wildlife and health tourism.

Morocco, Algeria, and Tunisia will become targets for tourism investment if their governments adopt creative and positive reforms in hotel chains, improve the poor transport infrastructure, and drive the e-banking system order to gain the profitability of tourism and reduce their dependence on the oil industry and the agriculture sector revenues. For example, Algeria ranked 123, and Morocco and Tunisia have recently tried to offer particularly promising investment opportunities but this enormous potential needs serious work from politicians to unify their efforts in order to attract more visitors from other world regions.

Methodology

This study is based on systematic literature review and recent world tourism organization data (UNWTO). The yearly series between 1995 to 2016 were obtained from an international



database. They are used to explore the relationship between tourism arrivals and some selected explanatory variables. In this research area, the data includes just three countries in North Africa. However, data about the gross domestic product (country risk) of three countries was bought from The PRS Group. The Stata software v15.1 was used for the empirical work. In the following work, we examined the effect of tourist arrival flows on some economic growth aggregates, through a panel data of 03 countries in North Africa, observed over the period 1995-2016.

In This study, we tried to estimate the impact of Tourism arrivals on a set of selected multivariables such as exchange rate, GDP, employment, country risk, using yearly inbound tourism data of the three north African countries. The dependent variable measured the number of international tourist arrivals to this region. However, the independent variables were as follows: the exchange rate, the GDP in %, the employment rate, the country risk and the expenses of the international tourists. The theoretical model was written as follows:

Exchange rate, the GDP in%, the employment rate, the country risk and the expenses of the international tourists. The theoretical model is illustrated as follows:

$$y = f(Dgp, Exch, Risk, Empl, Expt)$$

$$y_{it} = \beta_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \dots + \beta_k x_{kit} + \varepsilon_{it} \quad (1)$$

$$Y_{it} = \alpha + \beta_1 \ln(gdp)_{it} + \beta_2 \ln(exch)_{it} + \beta_3 \ln(empl)_{it} + \beta_4 \ln(risk)_{it} + \beta_5 \ln(Expt)_{it} + \varepsilon \quad (2)$$

$$Tour_{it} = \alpha + \beta_1 \ln(dgp_{it}) + \beta_2 \ln(exch_{it}) + \beta_3 \ln(empl_{it}) + \beta_4 \ln(risk_{it}) + \beta_5 \ln(Expt_{it}) + \varepsilon_{it} \quad (3)$$

Where $i = 1, \dots, N$ et $t = 1, \dots, T_i$ and (\ln_tour) represents the influx of international tourists; the Gross domestic product (\ln_gdp) was used to capture the tendency and to measure the monetary impact of tourists on the economy; (\ln_exch) this variable represents the exchange rate; (\ln_empl) which means employment s used to represent human capital accumulation; (\ln_risk) , this independent variable o test the relationship between tourism and country risk impact. However, (\ln_exp) ; represents the tourists expenditures; ε_i = random error.

Before carrying out the empirical analysis, we wanted to attract attention to the fact that in this study, we will use three types of panel data analytic models: (1) constant coefficients (pooled regression) models, (2) fixed effects models, and (3) random effects models.

Table 4- Levin-Lin-Chu unit-root test correlation coefficients

Levin-Lin-Chu unit-root test for	ln_tour &		. lags(1) xtunitroot llc first difference D.ln_tour,
Ho: Panels contain unit roots	Nof panels =	3	3
Ha: Panels are stationary	N of periods =	22	21



AR parameter: Common	Asym: N/T ->	0	0	
LR variance:	Bartlett kernel,	8.00 lags		
	Statistic	p-value	Statistic	p-value
Unadjusted t	-2.5849		-7.5300	
Adjusted t*	-1.5925	0.0556	-4.2698	0.0000

Source: calculated through SPSS 17.

According to the stata output, if we see the p-value and compare it with the statistic adjusted value we can automatically accept the null hypothesis which means that the panels are stationary and on another hand, they reject the alternative hypothesis. To check that there is not a root unit, we have tested the first difference of the variable *ln_tour* from the results, we notice that the p-value is less than 5 percent and of course here we can reject the null hypothesis and accept the alternative one-two, which means that the panels are stationary.

The appropriate model for the study

The study aimed at identifying the impact of tourist arrivals on the economic growth of a sample of countries. In (Table 5), the value of Fischer test statistic (F) indicated a statistical significance for each of the three approaches. The $P > t$ is almost significant in most variable except in the *ln_exch* where the value is approximately 0.050 although it remains acceptable. We can also notice an inverse correlation between foreign exchange rates because of the volatility which systematically leads to the loss of money towards international exchange money. In both models, fixed and random effect, tourists flow has a clear influence on the Gross domestic product (*ln_gdp*), employment and on (*ln_exp*) which refers to the total conception of tourists during their stay.

Table 5. Fixed and Random Effect Models

Fixed-effects (within) regression			Number of obs	
<i>ln_tour</i>	Coef.	Std. Err.	T	P>t
<i>ln_GDP</i>	.4731842	.07166	6.60	0.000
<i>ln_empl</i>	.2288922	.1887435	1.21	0.230
<i>ln_expt</i>	.1975764	.0643691	3.07	0.003
<i>ln_exch</i>	.2427059	.1211006	2.00	0.050
<i>ln_risk</i>	-.1508344	.1361713	-1.11	0.273
<i>_cons</i>	2.241336	.2237355	10.02	0.000
<i>sigma_u</i>	45256919			
<i>sigma_e</i>	06369528			
<i>rho</i>	98057657 (fraction of variance due to <i>u_i</i>)			
F test that all $u_i=0$: $F(2, 58) = 14.38$ Prob > F = 0.0000				
Random-effects GLS regression			umber of obs = 66	
<i>ln_tour</i>	Coef.	Std. Err.	z	P>z
<i>ln_GDP</i>	.2372095	.0634337	3.74	0.000
<i>ln_empl</i>	.7732049	.1868359	4.14	0.000
<i>ln_expt</i>	.3452554	.0690562	5.00	0.000
<i>ln_exch</i>	-.1299516	.0471038	-2.76	0.006
<i>ln_risk</i>	-.3046335	.1530506	-1.99	0.047
<i>_cons</i>	1.998675	.1676638	11.92	0.000

Source: calculated through spss 17. Note: (*) Indicates significance at 5% level



Hausman test

We tried to compare between fixed effect model (FE) and Random Effect model (RE) using the Hausman test. The results in table 6 show us that there is a probability that there is a significance $\text{Prob} > \chi^2 = 0.0000$ and under the 5% percent, which means that we can reject the null hypothesis and accept the alternative one. Thus the fixed model is the most appropriate in this study.

Table 6- Hausman test to choose between (FE) and (RE)

Hausman test			
Null = Random effect model is appropriate. Alt = Fixed effect model is appropriate.			
Coefficients -	(b) fixed	(B) Random	(b-B) Difference
ln_GDP	.4731842	.2372095	.2359747
ln_empl	.2288922	.7732049	-.5443127
ln_expt	.1975764	.3452554	-.147679
ln_exch	.2427059 -	.1299516	.3726575
ln_risk	-.1508344	-.3046335	.1537991
b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic $\chi^2(5) = (b-B)'[(V_b - V_B)^{-1}](b-B) = 32.00$ Prob > chi2 = 0.0000 (V_b - V_B is not positive definite)			

Source: calculated through spss 17.

Table 7- Breusch and Pagan test to select the best model

Var	sd	= sqrt(Var)
ln_tour	.1282713	.3581499
e	.0040571	.0636953
u	0	0
Test: Var(u) = 0 $\text{chibar2}(01) = 0.00$ Prob > $\text{chibar2} = 1.0000$		

Source: calculated through spss 17.

Estimated results: Null hypothesis is: Pooled regression model is appropriate. However, Alt : Random effect model is appropriate and according to the **Breusch and Pagan test estimation**, we found that the probability value is almost $\text{Prob} > \text{chibar2} = 1.0000$ and above the 5% percent which means that we have to reject the alternative hypothesis and accept the null one. As a matter of fact, we can conclude that the pooled regression model is the most appropriate model.



Table 8- Pooled regression model

Pooled Regression Model						
Source	SS	df	MS		Number of obs = 66	
Model	7.98564011	5	1.59712802		F(5, 60) = 272.24	
Residual	.351996258	60	.005866604		Prob > F = 0.0000	
Total	8.33763636	65	.128271329		R-squared = 0.9578	
					Adj R-squ = 0.9543	
					Root MSE = 0.07659	
In_tour	Coef.	Std. Err.	t	P>t	[95%	Interval]
In_exch	-.1299516	.0471038	-2.76	0.008	-.2241732	-.0357299
In_risk	-.3046335	.1530506	-1.99	0.051	-.6107803	.0015132
In_GDP	.2372095	.0634337	3.74	0.000	.1103232	.3640959
In_empl	.7732049	.1868359	4.14	0.000	.3994775	1.146932
In_expt	.3452554	.0690562	5.00	0.000	.2071223	.4833884
_cons	1.998675	.1676638	11.92	0.000	1.663297	2.334052

Source: calculated through spss 17. Note: (*) Indicates significance at 5% level

Findings

The findings showed that North Africa countries are top destinations and have attained a high rise in tourism revenues by recording 1,239 billion tourists during the year 2016. The panel regression through the three applied models revealed the followings results:

Based on this analysis, if the country risk percentage variable increases by one unit, it will lead to a decrease in the number of tourists with (-.304). Besides, there is a negative relation between country risk and tourism inflows. The value of the Fischer test, statistic (F) in our models indicates a statistical significance for each of the three approaches. We found that the number of terrorist attacks represented in country risk variable, does in fact not influence the tourism targets and its impact almost disappears in North Africa. A notable impact of tourists' arrival on employment is that it can rise by (0.77) and this means that the attraction of tourism can solve the unemployment effects which a lot of African countries suffer from.

In recent times, tourism in North Africa has flourished and in our model, each tourist contributes about (0.237) units in the (GDP). The tourists expenditures are economically beneficial and their spending during their stay is statistically significant with (0.345). That means, tourist expenditures can influence many North African economic sectors through the purchasing of accommodation and other services.

Discussion

From this study we can conclude that the tourism industry contribution on growth is clear and it plays great role in promoting the different economic sectors. Based on the Panel estimation, Using three models: Pooled Least Square (PLS), Fixed Effect Model (FEM), and Random Effect Model, the Breusch-Pagan LM test results show that tourism inflows have a real



influence on GDP, conception expenditure and also have a significant impact on employment and foreign exchange rates in Algeria, Morocco and Tunisia.

Additionally, the analysis of the impact of tourism on growth, found a relationship between tourist arrivals and employment and in our study of the three selected North African countries, we discovered a positive statistical relationship between the various economic variables and tourism inflows. The quantitative approach used in this study invites and encourages governments of North African Countries to benefit from the positive effects of tourists not only building new tourism infrastructure but also through the enrichment of the ecotourism in this region. The attractiveness of tourist flows certainly contributes to improving many economic indicators and solves many social problems by providing permanent jobs and creating private investments. This depends on the policy makers of these countries and their willingness to unify their efforts and merge their tourism policies to create a great tourist hub in this splendid part of the world.

The importance of this research lies in the tourist inflows intensity competition witnessed by many international organizations specialized in tourism, and their invitation to attract and develop this sector as a key driver of development and benefit from its positive impact in aspects such as technological advantages, administrative and organizational knowledge and as an accelerator of development in several vital economic sectors.

Conclusion

The success of tourism attractiveness involves the integration of all competencies, the integration of the local workforce and the development of the infrastructure, serving an economy based on social justice and rejecting the economic policies relying on one productive sector such as oil. This can only be achieved through structural changes in national financial and industrial policies and the development of educational policies which serve the North African countries economies, especially in the burgeoning tourism industry. The tourism sector also includes a change in trade and financial policy so it can be open to international markets. It is also worth mentioning here the importance of the private sector in the establishment of manufacturing industries and in the resettlement of modern technologies through the international hotels brands known for their exceptional food. No doubt, the tourist industry opens the way to creative and innovative ideas and it needs to find the right policies which can be applied by the policymakers to achieve a high number of tourist arrivals and which can also build strategies to reach the target and the goals by focusing on the linkages between economic growth and desired tourist arrivals. Only in this way can tourism to the Maghreb be sustainable.

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