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THE RELATIONSHIP BETWEEN TOURIST RECEIPTS AND ECONOMIC GROWTH IN TUNISIA

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ABSTRACT
Considered as a global booming business, tourism contributes by 11% of the world GDP. In many developing countries, this sector has become a key source of growth and wealth that affects directly and indirectly sectors linked to it as well as others. According to the World Tourism Organization (2004) tourism doubled between 1995 and 2005 and it has become itself for some small and medium-sized countries the exporting sector by excellence! Contributing massively to the national economic growth (Kim.HJ & AL, 2006), (Arslanturk.Y & Al, 2011). Where the Tunisian tourism is situated and is there a significant impact between the revenue from the latter and the economic growth of the country? In our study, we tried to answer this question. So, we tried to show through an econometric study the impact of tourism on the Tunisian economy.It also showed the direction of unidirectional causality from of tourism revenues to GDP.

INTRODUCTION
Considered as a global booming business, tourism contributes by 11% of the world GDP. In many developing countries, this sector has become a key source of growth and wealth that affects directly and indirectly sectors linked to it as well as others. According to the World Tourism Organization (2004) tourism doubled between 1995 and 2005 and it has become itself for some small and medium-sized countries the exporting sector by excellence! Contributing massively to the national economic growth (Kim.HJ & AL, 2006), (Arslanturk.Y & Al, 2011). Such is the case of Tunisia; tourism has not been developed till after the independence, since it has gone through three phases from takeoff, the rise and then the crisis that persists till today. In this North African country, we acknowledge his undoubted importance marked by a considerable contribution in currency, a contribution to the trade balance and job creation especially among young people (Balaguer. Cantavella.M & J, 2002), (Dritsakis.N, 2004). For example, foreign exchange earnings recorded for the year 2010 amounted to 3522.5 million dinars against 3471.9 million dinars in 2009 and 3,400 in 2008 and contributed up to 7% of GDP. But in spite of all, it was overburdened by several problems, including strategic issues, rugged Mediterranean competition; problems related to the training of hotelkeepers and the shock from the attacks of September 11, 2001 and that of 2011, stricken due to the revolution. Where the Tunisian tourism is situated and is there a significant impact between the revenue from the latter and the economic growth of the country?

The originality of our work lies in the fact of having focus on the study of this relationship in Tunisian hotel industry over the period 1979 -2013.One area that hitherto has not attracted the attention of several researchers. This work could serve as a support to help revive the sector considered as one of the pillars of the national economy.

LITERATURE REVIEW
In a developing country such as Tunisia, tourism is seen as a sector or industry of primary importance when we look more closely at its multiple impacts. The revenue from this sector directly affects GDP, employment, due to its nature as a service activity, even if it turns out to be seasonal and does not require specific skills, the investment

is either in the field or in areas that are related to it. However, knowing the exact impact of this sector on the national economy in order to identify the sources of success or failure still remains a challenge. Tourism consumption is spread across multiple sectors of the economy, and if the direct effects such as expenses incurred are known, it is certainly not the case for the indirect effects. In Tunisia it has an impact on agriculture, real estate, furniture, transportation and banking. This gives it a rating of "flagship" sector but not dominant. Thus, several studies have focused on the study of this phenomenon around the world. To determine the success of this sector and to measure or identify its impact on economic growth, remains a central issue around which several researchers focused. Our theoretical support allows us to review a significant number of jobs, starting with that of Gray (1966) who measured the elasticity of income / person on tourism demand in the U.S. and Canada, in order to assess the economic contribution of tourism. Like him, Bryden (1973), Heng & Low (1990) focused their research on the economic contribution of tourism in developing countries. As noted by Sinclair (1998) later on, all these works are bound by the estimation of tourism demand and therefore the generation of future income. This estimation is performed by resorting to simple equations for measuring tourism demand or arrivals. But further research submerging recently; Dwyer et al (2004), Ivanov & Webster (2007) were based on general equilibrium models as well as tourism satellite accounts to clarify the impact of tourism development. However, it should be noted that from 2002, the researchers are focusing more on the study of causality between tourism and economic growth, just as the object of this work, to test it and to identify its nature. To this end, our review literature allowed us to distinguish between the works having been resorting to panel data. At this level the work of Lanza & Temple (2003) should be mentioned as one of the first to test the causality using panel data from 13 OECD countries over the period from 1977 to 1992 and taking as variables; tourist arrivals, total expenditure, prices and GDP stays. In 2006, Algieri (2006) revisited the work (Lanza, 2003) and presented new results more convincing and, by testing a sample of 25 countries between 1990 and 2003 and proving the existence of a unidirectional causal link between the variables allocated to tourism revenue, the price index, the cost of transport and GDP. The author was able to prove that a 1% increase in GDP would lead to an increase of 5.8% in tourism revenue, which is considered a major impact.

In 2008, Sequeira & Nunes were based on 2 estimators namely the GMM and the LSDV to observe the same phenomenon. Their study sample is quite large, containing 94 countries, which was divided into two, depending on the degree of specialization of countries in tourism over the period 1980 -. 2002 the related results led the authors to conclude that the country size is not a factor reflecting the economic growth out coming from the specialization degree of tourism. Growth is the only promoted by the specialization the country, regardless of its size. We should therefore focus on the determinants of tourism growth with particular attention to the calculation of the productivity achieved by hotels, as a 1% increase in tourism revenue to GDP leads to an increase of 0.05 % of production. During the same year, and due to high heterogeneity between the subject countries, Fayissa, Nsiah & Tadasse (2008) studied the impact of tourism growth for 42 countries in sub-Saharan Africa from 1995 to 2004. They took as variables GDP, tourism receipts, human capital, investment and foreign investment, the exchange rate and the number of arrivals. Using the autocorrelation model, they came to the result that a 10% increase in tourism revenue leads to an increase of 0.4% GDP / capita. Interested in the internal or domestic tourism more than international tourism, Cortéz (2010) studied the impact of this sector on economic growth in some regions of Spain and Italy from 1990 to 2004. He then divided his samples to internal, coastal and along the Mediterranean areas. The results reveal that for the last two regions, tourism both internationally and nationally proves to be fruitful and considerably affects the economic growth. Whereas, it is less affected when it comes to internal regions. That is to say that the location is a key factor in this area.

In (2011), Nissan et al, have also focused on the examination of fallout of domestic tourism by investigating in Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, the Sweden, the United Kingdom and the United States. They have introduced as variables: tourist spending, human capital, public and private investment, business (participatory) and money supply mind. The results show that the importance of this sector, as measured by the cost of tourism in the country, affecting direct and significant economic growth. As a result, income levels are positively related to tourism development but it must be mentioned that an expansive monetary policy would lead to probably higher prices. Other studies have also attracted attention as one of Dritsakis (2012), investigating on 7 Mediterranean countries for the period 1980 to 2007, choosing for variables GDP, tourism receipts, the exchange rate and arrivals; he was able to affirm the impact caused by tourism on the economic growth of the concerned countries. Caglayan et al (2012) have demonstrated the existence of a unidirectional causality

relationship between GDP growth and tourism receipts and this is for some countries of Europe, America, Latin America and Caribbean countries over the period from 1995 to 2008. However, the causal relationship takes a contrary direction when it comes to certain countries in South East Asia and Oceania.

In this case we are limited to the study of the impact of tourism on economic growth of a single country; Tunisia over the period from 1965 to 2012. So we used the method of time series for the study of the phenomenon. It turns out that this method attracted the attention of a greater number of researchers than the previous method. The number of studies reached 42 according Maria, Romero & Molina (2013). It requires less complexity for the collection and the processing of econometric data. At this level we are going to review some of such important studies examining the test of causality between tourism and economic growth, starting with that of Ghali (1976) who have resorted to the OLS in order to prove that the level of income falls about 17% in the absence of tourism growth in Hawaii over the period 1953 -. 1970 However, the first study of time series analysis was adopted by Balaguer & Jorda (2002) in the Spanish context over the period 1975 - 1997 the authors introduced three variables under study; GDP, tourism receipts and foreign exchange rates. They thus demonstrated the existence of a causal way and a cointegrating relationship between tourism and economic growth. The same assumption was checked in (2004), Dritsakis, applying the Granger causality test. The author has found bidirectional causality between the idea of an international tourism in Greece and the country's economic growth over the period 1960 -. 2000 Thus, the revenue from tourism and the exchange rate have causal relationship with the economic growth, however, the latter and the exchange rate affect the revenue in a simple and direct way. Like him Demiroz & Ongan (2005) and Gunduz & Hatemi (2005) tested the same hypothesis, but they have achieved different results. The first duo investigating in Turkish context over the period 1980 - 2004 and following the same methodology as Dritsakis (2004) found a bidirectional causal relationship between the two variables. Whereas, Gunduz & Hatemi (2005) opted for Levier's causal test and not Granger's testified the existence of a unidirectional relationship measured according to tourist arrivals instead of revenue / economic growth over the period 1963 - 2002. Louca (2006) was interested in the tourism sector in Cyprus during the period 1975 -. 2001. He tested the relationship between tourism revenues over 3 types expenditures of the supply associated with it. The results show the existence of a positive relationship (income / expenditure on advertising and promotions) and between (tourist arrivals / hotel expenses and food). The author argues that the policy of "expenses" directly affects the hospitality industry and this has a positive effect on the "income". Also taking Cyprus as an example, Katircioglu (2007) tested the relationship between tourism, international trade and economic growth using time series from 1960 to 2005. The author makes use of an autoregressive cointegration test (ARDL) and the results say that the economic growth of the island affects the development of international tourist arrivals and trade. He also emphasized the fact that the growth of imports / exports is positively associated with the number of international tourist arrivals. In the same context, Nowak and al (2007) who considered that tourism revenues could encourage imports, which undoubtedly strengthen economic growth, have tested the relationship between these three variables in the Spanish context during the period 1960 - 2003 based on the Granger causality test. Their results show the presence of a unidirectional causality between income, imports of goods and services and thus economic growth.

In 2008, Taiwan and Turkey have been the subject of several studies, starting with that of Lee & Chien (2008) who analyzed the nature of the relationship GDP / tourism (revenue and arrivals) / rate real change in Taiwan between 1959 and 2003. Following the technique of Granger causality test, the authors highlight the existence of a bidirectional causal relationship between tourism and economic growth. However, they mention that the stability of this relationship there is intimately linked to political changes attributed to exogenous variables and economic crises that may arise. Regarding the Turkish case, Kaplan & Celik (2008) following the same methodology as the previous studies have identified a unidirectional relationship between tourism and GDP over the period 1963 -. 2006. What makes this area a fundamental pillar in the economy of the country? That is to say that operating in the same period and studying the same sample, Maria Del P et al (2013) state that Katircioglu (2009) identifies a different result, namely; the absence of any causal relationship between tourism and economic growth in Turkey. This contradiction of facts is due to the use of a different methodology and different estimation methods to those attributed to the previous study.

It is now up to the American context, mentioning a study by Tang & Jang (2009) for the period 1981 -. 2005 They analyzed the relationship between 4 tourist industries (airlines, accommodation, hotels and restaurants) and GDP.

They attested the presence of a unidirectional causal relationship between GDP and tourism in the USA. But the impact is relatively low compared to other countries where tourism is central to the national economy.

Many other studies have followed all treated with the same phenomenon, diversifying their pallets variable and in some cases, econometric methods. We cite the case of Jordan at the level of the Kreishan's investigation (2010) 1970-2009 by proving the existence of a unidirectional causality between GDP, touristic revenues and the actual exchange rate. Like them, and using the same variables, the same methodology and therefore the persistence of the same causation, Mishra and al. (2010) have operated in the Indian context over the period 1978-2009. In the same context, an assumption widely verified in the Colombian environment, in light of the results provided by Brida & Risso (2010) during the period 1990-2006. This is followed by the case of Turkey, which has been discussed repeatedly since the Mediterranean countries excelled in tourism. Arslanturk and al. (2011) tested the causal relationship between GDP, tourism receipts and exchange rates using two different methodologies. They introduced and other variables related to policy and institutional changes as factors influencing tourism / economic growth relationship. Their results deny the existence of any link between the series of variable and GDP is in no way linked to tourism growth. Survey taken shortly after, Husein & Kara (2011) relied on the error correction model and confirmed the existence of a causal link between tourism receipts and GDP over the period 1964-2006. During the years 2012 and 2013, studies addressing this issue have continued to multiply; Amaghionyeodiwe (2012) focused on the case of Jamaica over the period 1970-2005. Obadiah & al. (2012) got interested by the case of Kenya during the period 1999-2012. Tang & Abosedra (2013) discussed the case of Lebanon during 1995-2010. Finally, the Italian case was approached by Massida & Mattana (2013) over the period 1987-2009. Our study is therefore in line with all the work mentioned above, operating in Tunisian tourism sector.

TUNISIAN TOURISM SECTOR: A DESCRIPTIVE ANALYSIS

During the period 1956 - 1961, the primary objective was to free Tunisia of the French influence, and that, at all levels, starting with agriculture. The interest for the tourism sector has been shown later, although the country has lean sources of foreign exchange earnings to finance the economic development of the country, Tunisian authorities quickly considered the benefits they could gain from tourism development. To achieve this development, the State has assumed the major tourism investments in the first years of independence of Tunisia. During the period 1962 - 1969, Tunisia has opted for a strategy of continuity of tourism seeking to attract more tourists. During the period 1970 - 1980, the tourism sector had targeted the European middle class families. To do this, several hotels of two and three stars have emerged to accommodate this new wave of tourists. This strategy was of a great success which led the hotelkeepers to develop another segment; business tourism. During the years 1981 -1986, following a severe economic and financial crisis (falling oil revenues, droughts), the tourism industry has become the leading sector of the Tunisian economy. In fact, Tunisia has experienced a net growth in tourism, and has developed a program to prepare the necessary infrastructure to accommodate several million tourists. During the years 1987 - 1995, a period characterized by the disengagement of the state towards the tourism sector on the benefit of private investors, encouraging internationalization. Following the Gulf War (1991) many accommodations have experienced problems related to debts, which led them to revise their prices downwards. A Period characterized by a general imbalance due to an overvaluation of the dinar and a large trade deficit, Tunisia has made reforms, thus following the advice of the IMF and the World Bank. An adjustment program has emerged, affecting all sectors and calls for market deregulation, a tight fiscal policy and in particular the devaluation of the dinar. Since 1995, the Tunisian tourism chained success after success; Tunisia has strengthened its liberal economic orientation with its access to the World Trade Organization (WTO) and the signing of free trade agreements with the European Union (17/07/1995). In terms of the tourism industry, it has adopted a new strategy to deal with the problems arising from previous decades, namely an image of seaside mass destination, economic hardship for Tunisian tourism actors. At this level, we can say that the Tunisian tourism since independence until recently has undergone three major phases: takeoff (1957 - 1972); the boom (1972-2000) and the crisis (2000-present). Despite the importance of this sector in the economy, several problems overwhelm and are becoming more numerous. Problems related to strategic issues, problems related to training even for hotelkeepers and officials. From 2002, the Tunisian tourism industry has intensively suffered from the impact of the very troubled international situation, which resulted in attacks of 11 September 2001 in the USA. Striking the Tunisian soil, bombing in April 2002 in Djerba has only complicated an already difficult situation. Consequently tourist arrivals fell by 6% in 2002, 17% of nights and foreign exchange earnings by 13%. Adding to this the problem of faltering demand and undiversified product. The Tunisian tourist offer was in the 60s based on seaside tourism. Today 81%

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of the total number of beds is located on the coastal areas. This causes a decline in occupancy of Tunisian hotels rates, itself linked to the low diversity of the Tunisian tourist offer and the predominance of seaside tourism. This would reflect the obvious decrease of the basic touristic product tourism product of the Tunisian tourism constituted by midrange seaside stays. Beside, tourists having opted for the Tunisian destination spend little. In 2001 a tourist spent, excluding transport, averaged $ 304 in Tunisia against $ 633 in Spain and $ 750 in Turkey. An outdated image sold at a discount: the overall image of tourism in Tunisia, built by these institutions remains banal and poorly differentiated. Another significant fact characterises the Tunisian hospitality of being fragile and delicate. Given the boom has known this area in the space of 40 years; we see that the revenue per bed increases slowly compared to the changes in average costs per bed. This creates a huge imbalance, leading to the progressive collapse of the hotel unit, adding to that the phenomena of overinvestment and especially the increase in interest rates that are compounded by the lack of economic performance. The advantages of the Tunisian tourism are many (geographical position, mild climate, sandy beaches, oasis ...) however, the competition is getting tougher and tougher when it comes to French tourism, Spanish, Italian, and Moroccan or even Egyptian ... These countries record higher levels of growth compared to that of Tunisia tourism development. They also have extremely diverse offers and enjoy an appreciated domestic tourism. Several benchmarks allow the tourist to prefer one destination over another (the cost of supply, the type of product, reputation in the field, national or cultural events ...) The strategy adopted by these four countries had to aim to tailor their offerings to the new conditions of international tourism, while avoiding the pitfalls of tourism summer mass that some of them had already experienced (dependence on tour operators, seasonal, single-product, ...). Tunisia as for it rose less than its competitors; it did not take the turn that was presented to it, while the elites knew how it functions. From an Urbanistic point of view, according to ONTT, hotel infrastructure suffers from serious problems, it is estimated that 50% of hotels are completely obsolete, and 25% need urgent rehabilitation. This implies that 75% of Tunisian hotel parks respond timidly to safety standards required by public safety. Aside from a deserted hinterland, a blatant opacity characterizing the management modes, the problems affecting this sector continue to grow.

EMPIRICAL EVIDENCE

In this section, we will try to see if tourism revenues are an important determinant of economic growth in the long term. We will answer to this question empirically using econometric techniques for the Tunisian case.

Model presentation

In this study, we will refer to the study of Mankiew, Romer & Weil (1992). This study was used several times in recent empirical work related to determinants of economic growth. The estimates that follow are based on a function of the following reduced form:

$$\mathbf{GDP_t = \alpha + \beta TR_t + \lambda\, CAP_t + \gamma\, TEDU_t + \varepsilon_t}$$

With;

t: period (t=1…..T), **GDP**: the logarithm of GDP per capita calculated in constant 2005 Tunisian dinar, **TR**: the logarithm of tourism receipts in Tunisian dinar, **CAP**: the logarithm of capital accumulation per capita, **EDU**: the logarithm of the tertiary enrollment ratio, $\boldsymbol{\varepsilon_t}$: the error term and **(β, λ, γ)** the vector of coefficients to estimate. In the following, we will try to estimate the long-term relationship in time series for the case of Tunisia for the period (1979-2013).

In our work, we will use the GDP per capita as a determined variable; tourism revenues; the stock of physical capital per capita is calculated by the permanent inventory method (Van Pottelsberghe, 1997): $\mathbf{K_t = I_t + (1 - \delta)K_{t-1}}$

With, $\mathbf{I_t}$ is the gross fixed capital formation (FBCF) and $\boldsymbol{\delta}$ is the depreciation rate equal to 6%. At$\mathbf{t_0}$, The initial stock of physical capital is$\mathbf{K_0 = I_0/(g + \delta)}$; with, $\mathbf{I_0}$ is the initial investment, and **g** is the average annual growth rate of investment. The physical capital stock per capita is the ratio between the calculated stock of physical capital and the total population. Human capital refers to all the abilities learned by individuals and that increase their productive efficiency. We use the tertiary enrollment ratio as human capital proxy.

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Estimation methodology

The concept of cointegrated variables is fundamental to understanding the long-term relations in economic time series. The cointegrated variables model brings with him two questions. The first is to know how two or more variables are cointegrated and the second is to find a method of estimating cointegrated vectors if they exist.

Unit root test

As a preliminary step, we test the stationarity of all series and we determine their integration orders. For this we use the Augmented-Dickey-Fuller (ADF) test.
The results of this test are represented in Table 1.

TABLE 1: Unit root test results

Variables	Statistiques	p-value	Variables in first differences	Statistiques	p-value	Order of integration
GDP	-0.440	0.890	ΔGDP	-6.810*	0.000	I(1)
TR	-0.979	0.747	ΔTR	-5.533*	0.000	I(1)
CAP	-1.397	0.711	ΔCAP	-3.500**	0.0145	I(1)
TEDU	-1.067	0.716	ΔTEDU	-2.803***	0.069	I(1)

* = signification at 1 percent, ** = signification at 5 percent and *** signification at 10 percent.
Source: Authors' calculations based on results of the ADF test.

As indicated in Table 1, the variables are not stationary in levels given that the statistics ADF values are all above the critical value to reject the null hypothesis at the 10% thresholds. After a first differentiation, the ADF statistics values are all less than the critical value to reject the null hypothesis at the 10% threshold. So we can deduce that the variables in two equations become stationary after first differentiating, and they are all integrated of order 1.

Cointegration test

After showing that all series are integrated of the same order, we test the existence of a stable long-term linear relationship between these series. The vector of the non-stationary variables is given by:

$$\mathbf{Y_t = [GDP_t, TR_t, CAP_t, TEDU_t]}$$

We test the existence of one or more cointégrations[1] relations between variables using the λ-max[2] test and the La trace[3] test.

It should be noted that before to withhold the results of cointegration test, some information criteria were used to determine the optimal delay. The AIC criteria show that the delay of our VAR is equal to 4. The results of the cointegration test are given in Table 2.

TABLE 2 : Cointegration test results

Null Hypothesis	Alternative Hypothesis	Eigenvalue	Max-Eigen statistic	5% critical value	Trace statistic	5% critical value
r = 0	r = 1	0.871324	61.51363	27.58434	136.3545	47.85613
r ≤ 1	r = 2	0.706091	36.73459	21.13162	74.84082	29.79707
r ≤ 2	r = 3	0.651662	31.63747	14.26460	38.10623	15.49471

[1] Two or more macro or microeconomic variables are called co-integrated if they admit a common trend. In other words, the variables in question evolve in a parallel manner in the economic sense.
[2] This is a test developed by Johansen and Juselius (1990) to determine the number of co-integrating vectors.
[3] This is a sequential test developed by Johansen and Juselius (1990) which allows the determination of only the number of co-integrating vectors and not the co-integrating vector estimated.

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r ≤ 3	r = 4	0.193963	6.468765	3.841466	6.468765	3.841466

Source: Authors' calculations based on test results of Johansen and Juselius (1990).

The results show the presence of 4 cointegrating relationships between variables in our model. Johansen and Juselius (1990) methodology determines a co-integrating vector determining the long-term relationship between GDP per capita and its determinants.

TABLE 3: Cointegrating vector endogenous variable (GDP)

Variables	TR	CAP	TEDU
	0.044***	0.131*	0.113*

* = signification at 1 percent, ** = signification at 5 percent et *** signification at 10 percent.
Source: Authors' calculations based on test results of Johansen and Juselius (1990).

The results of our estimates confirm that the level of tourism revenue has a positive and statistically significant effect on the level of GDP per capita in our country. We find that a 1% increase in tourism receipts will increase real GDP per capita by 0.044%. This very small effect can be explained by the tourism sector underdevelopment in our economy as a result of non-adoption of effective policies. So, this empirical result comes to justify the low contribution of the tourism sector in the creation of Tunisian economy wealth.

The accumulation of physical capital and human capital has a positive and statistically significant effect on the development in Tunisia.

Error correction model (ECM)
It has been shown that there is the presence of at least one cointegration vector. According to Engel and Granger (1987), it is possible to have error correction representation of economic growth and its determinants for the Tunisian case. These models have specificity for determining a dynamic pattern of adjustment of an economic variable to a long-term equilibrium value.

The resulting models were estimated by ordinary least square (OLS) taking into account only statistically significant variables. By referring to the estimation procedure of Hendry (1986), the growth equation can be written as:

$$\Delta GDP = \alpha_0 + \alpha_1 ECT_{t-1} + \sum_{i=1}^{k} \beta_i \Delta GDP_{t-i} + \sum_{i=1}^{k} \gamma_i \Delta RT_{t-i} + \sum_{i=1}^{k} \delta_i \Delta CAP_{t-i} + \sum_{i=1}^{k} \theta_i \Delta EDUT_{t-i}$$

With,
K is the number of delays, i = 1,…., k;
ECT_{t-1} is the delay of the error correction term and which is the residue of the cointegrated regression of the growth equation;

α_1 is the coefficient which measures the speed of adjustment of the endogenous variable towards its steady state equilibrium value of the long term.. This coefficient must be negative; otherwise it should reject a model type error correction specification.

This approach represents a distinction between the short term and the long term.
The estimation results of the model are shown in Table 4:

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TABLE 4: ECM results endogenous variable (ΔGDP)

Variable	Coefficient	t-Statistic	Prob.
C	0.045847	5.744439*	0.0000
TCE_{t-1}	-0.761649	-4.765335*	0.0001
ΔGDP_{t-1}	0.485639	3.197434*	0.0047
ΔGDP_{t-2}	0.252113	2.319761**	0.0316
ΔRT_{t-1}	-0.018211	-2.893012*	0.0093
ΔRT_{t-2}	0.016844	2.115284**	0.0478
ΔCAP_{t-2}	-0.320368	-3.328068*	0.0035
ΔCAP_{t-3}	0.278626	1.929538***	0.0687
ΔCAP_{t-4}	-0.408318	-4.052461*	0.0007
$\Delta TEDU_{t-1}$	0.064012	1.769412***	0.0929
$\Delta TEDU_{t-2}$	-0.066682	-2.072364**	0.0521

* = signification at 1 percent, ** = signification at 5 percent et *** signification at 10 percent.
Source: Authors' calculations based on the ECM results.

The results of the estimation of ECM model for the growth equation show that the error correction term has a negative and statistically significant sign, which requires that the level of GDP is adjusted for any deviation from the equilibrium of the previous period and is directed towards its long-run equilibrium relationship.

It is observed that the past values of the GDP appear to have significant effects on the delay 1 and 2 of its first difference. We note that the effect of tourist revenue for a delay of 2 periods on the Tunisian economic growth is positive and have a significant sign at 5%.

Regarding capital accumulation, we see that the sign of the elasticity is positive and significant for a delay of two periods, confirming the role of investment as the engine of economic growth. The human capital coefficient is significant and has an expected sign for a delay of one period, which verifies the idea of Lucas (1988).

Causality test

To identify the relationship between GDP per capita and its determinants in Tunisia, bivariate and multivariate causality test series were implemented. In 1969, Granger led a causality test for time series. As the variables are integrated of order 1 and are cointegrated, an error correction model can be used to identify the causal direction.

TABLE 5: Causality test results

Direction of causality →	**GDP**	**TR**	**CAP**	**TEDU**
GDP	-	2.371	3.846*	1.583
TR	6.816*	-	1.004	6.816*
CAP	1.31	3.374**	-	0.816
TEDU	3.134**	2.265	6.083*	-

* = signification at 1 percent, ** = signification at 5 percent et *** signification at 10 percent.

Source: Authors' calculations based on results of Granger causality test.

The results presented in Table 5 show that there is a unidirectional causality from tourism revenues to GDP at a significance level of1%. Thus we can say that an increase of tourism revenues will cause an increase in GDP per capita. While economic growth does not have a positive effect on tourism revenues.

RESULTS INTERPRETATION

Through this paper we wanted to highlight the importance of the Tunisian hotel sector and that it greatly affects the national economy, while it is still regarded as an accessory with a good portion of our senior management. According to the results obtained, it has indeed proved the existence of a positive unidirectional causality between tourism receipts in Tunisia and GDP / capita over the period 1965-2012. It acts directly and indirectly on the economy, but also it promotes job creation, even if it is low-skilled and strong seasonal trend, there is still a way to fight against poverty in certain economically depressed areas. As a result, this sector has experienced significant changes over the entire study period, which explains the variation of its impact on economic policies.

CONCLUSION

In this research, we tried to show through an econometric study the impact of tourism on the Tunisian economy. It also showed the direction of unidirectional causality from of tourism revenues to GDP. Thus, we conclude that Tunisia must attach great importance to the tourism sector for extricate the country from the current crisis. A major challenge: a total and absolute turnover of the structures of Tunisian tourism is more than necessary. First of all a restructuration of the supply and the demand must be handled. An anchoring in the national market should be followed, given the importance of domestic demand in that it reduces dependence towards foreign tourists and helps rebalance the balance of payments. We also note the existence of non-monetary impact, such as reducing social tensions and the strengthening of the citizen's sense. From the supply side, product diversification is more than vital. The development of areas in order to attract new investments in various products such as Saharan tourism, cultural, cruise, conventions, folk, and mainly in areas that are not always highlighted. Diversification directly affects the provision of accommodation, enrichment and a spectacular increase in range to meet these new requirements. Beyond the economic impact that this could have, segmentation and diversification of the tourism market it has competitiveness issues, in so far as an offer is distinguished it allows the country to differentiate itself from its competitors. But also a modernization of tourism institutions is recommended to have administrative and regulatory tools to govern the sector as a whole, obviously aside of the presence of a permanent, qualified, competent and innovative staff. Thus giving greater importance to a new strategic policy, encouraging hotelkeepers to adopt mergers / acquisitions, alliances and partnerships namely with developed countries to benefit from the achievements and strengths they have and to reproduce them within the Tunisian hotel industry.

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