
Determinants of Tourism for “Sun and Sea” Cyprus^{*}

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Abstract:

Tourism is an essential contributor of economic growth, social and cultural development. Cyprus is now an established tourist destination, which, however, is passing through a slowdown phase. The determinants of tourism have been extensively examined for other countries, but the literature regarding Cyprus is very scarce. This paper examines the factors that affect tourism in Cyprus for the period 1995-2010, using time series regression analysis. Tourism is represented by tourist arrivals and tourism expenditure, while the predictors are relative prices, the Gross Domestic Product (GDP) of Cyprus and the income of the main countries that send tourists to Cyprus. The results show that tourism expenditure is significantly affected by the GDP of Cyprus and the relative prices between Cyprus and its main competitor, Greece, while tourist arrivals are additionally affected by the level of income of the origin countries. Increased competition, high operational costs, standardization of touristic product (sun and sea), as well as the international political instability and global financial crisis, which have raised unemployment and reduced tourists' disposable income, appear to influence tourism in Cyprus. These findings are discussed, in combination with the corresponding low or high rankings of Cyprus in various pillars of travel and tourism competitiveness.

Key Words: *Tourist Arrivals, Tourism Expenditure, Travel and Tourism Competitiveness Index, Relative Prices, Global Financial Crisis*

JEL Classification: L83, O10, R11

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1. Introduction

Tourism contributes to the economic growth of a country, as it is considered a creator of jobs and the engine for economic, social and cultural development (Adamou and Clerides, 2009; Halicioglu, 2004; Idowu and Bello, 2010; Pantazidis, 1997; Jo'hannesson and Huijbens, 2010; Giacomelli, 2006; Önder et al., 2009; Eurostat, 2010). Tourism can help rural areas become tourism centers with many job opportunities. It is estimated that in 2010 tourism generated 221 million jobs around the world and by 2015 it is expected to generate 269 million jobs (Tarlow, 2010). Economies benefit by hotel and restaurant expenditures and taxes, conventions and meetings, transportation taxes and foreign capital investment, especially in hotel construction. (Tarlow, 2010).

Export income produced by international tourism ranks fourth after fuels, chemicals and automotive products and it is considered a renewable, infinite export commodity (Mladenović and Zlatković, 2009; Tarlow, 2010). Halicioglu (2004) supports that international tourism ranks first as foreign currency receipts are more than petroleum products, motor vehicles, telecommunication equipment and textiles. Tourism is also a powerful tool for every country to promote its traditional heritage (Idowu and Bello, 2010).

Tourism has been for many years a major source of income in Cyprus and has contributed in the economic growth of the island (Clerides and Pashourtidou, 2007; Sola, 2008; Eurostat, 2010; Cyprus Tourism Organisation (CTO), 2010). Cyprus is now an established tourist destination in an extremely competitive environment. Although Cyprus possesses huge experience and knowledge of over 30 years in the tourism industry, nowadays tourism in Cyprus is passing through a slowdown phase. Therefore Cyprus is called to utilize its accumulated experience and make a fresh start within the new global competitive environment (CTO, 2010).

Existing literature has shown that international tourist demand is mainly affected by economic recessions and financial problems, political instability, natural disasters and energy costs (Beirman, 2008; Hall, 2010; Li et al., 2010). Numerous studies exist regarding the determinants of tourism in many countries, but literature regarding Cyprus is inadequate. The current study will examine the determinants of tourism for Cyprus and aims to provide new evidence and interesting insight.

2. Tourism in Cyprus

“A mosaic of nature and culture, a whole magical world concentrated in a small, warm and hospitable island in the Mediterranean, at the crossroads of three continents, between East and West that offers a multidimensional, qualitative tourist experience” (CTO, 2010). Cyprus is considered to be one of the most tourism-dependent regions in the world, with a strong tourism tradition. It is among the countries with a traditional tourist product and belongs to the European market,

which still holds the lion's share in the international tourism market (Sola, 2008). Rich history, warm summers, and nice beaches are the main traits of Cyprus that attract tourists.

The tourism industry started to grow in the mid-1960s. However, after the Turkish invasion in 1974, there was a huge reduction in the arrivals of visitors in Cyprus. Therefore, emphasis was given in this sector and tourism recovered in the 1980s. By the end of 1980s tourism became the key driver of economic growth for Cyprus. Income receipts were 20% of GDP and arrivals of visitors were 2.5 times the population (Adamou and Clerides, 2009). The tourism sector was affected again in 1991 due to the Gulf War, and it improved in 2000. Cyprus has been an active member of the World Tourism Organization (UNWTO) since the 1970s (Sola, 2008). The vision of CTO is to make Cyprus a qualitative tourist destination that will satisfy the visitor with various interests and quests and ensure the continuous improvement of the quality of life of the locals (CTO, 2010).

Cyprus ranks first in terms of tourism ratio in domestic supply, where inbound and domestic visitors in Cyprus consumed 9.1% of the total output of tourism and non-tourism industries, a much higher percentage compared with the average value of 3.0% for all the European Union countries (Eurostat, 2010).

Despite the importance of tourism in Cyprus, the tourist product is encumbered with many problems and weaknesses. In the last past years there were drops in arrivals of visitors and thus reduction in the revenue from tourism. Cyprus, as an island invested mainly in the "Sun and Sea" tourist product. That was the best option in 1980s, when Cyprus emerged as a new tourist destination. That time tourists' expectations were different and competition was low. Nowadays this is not enough. Cyprus appears to have lost its competitiveness as a tourist destination. Receipts in 2007 were 12.1% of GDP (down from 20.6% in 2000) and arrivals of visitors were 2.4 million (down from the peak of 2.7 million in 2001). Revenues in 2006 were 1.76 billion Euros, much lower compared to the peak of 2.17 billion Euros in 2001 (Adamou and Clerides, 2009; Clerides and Pashourtidou, 2007). For the period between 2000 and 2005 Cyprus had one of the lowest growth rates in receipts per arrival among the other European (EU) countries.

International political instability and wars seem to have affected Cyprus negatively. For example, in 2000 and in 2006 there was a reduction in arrivals in Cyprus which could be linked to the September 11 2001 terrorist attack in USA, the war in Iraq (2000) or the incidents at the cease-fire line in August 2006 (Clerides and Pashourtidou, 2007).

Clerides and Pashourtidou (2007) provide comparisons of Cyprus with some of its Mediterranean competitors. Between 2000 and 2005 Cyprus recorded the highest decrease in arrivals after Italy, while Turkey recorded growth over 100%. Egypt, Croatia and Slovenia also grew at impressive rates (61.1%, 45.2% and 42.7% respectively). Regarding tourism receipts Cyprus had the worst performance between 2000 and 2005, while Turkey recorded the highest growth rate followed by

Egypt and Slovenia between 2004 and 2005. Cyprus, Spain, Greece and Portugal recorded low growth rates (Clerides and Pashourtidou, 2007).

The global economic crisis of 2008 appears to have affected the tourism industry in Cyprus negatively. Most affected were the arrivals from United Kingdom, which comprise 50% of all tourists, with a reduction by 6.8% (73.150 reductions in arrivals) in 2010 (Clerides and Pashourtidou, 2007; Financial Mirror, 2011). The increase in arrivals from Russia, Germany, France, Israel and Sweden counterbalanced those losses (Financial Mirror, 2011). What is more, the eruption of the volcano in Iceland in April 2010 caused a reduction in arrivals by 30 000. The liquidation of the carrier Eurocypria in November 2010, which was followed by the cancellation of many reservations of tourists, deteriorated the situation. Apart from that, pressure from tourist agencies for lower prices on hotel reservations made the situation even worse (Financial Mirror, 2011). The economic recession caused operational problems to many international carriers, including Cyprus Airways, with negative effects on the tourism industry (Financial Mirror, 2011).

The latest figures, however, provided by the Statistical Service of Cyprus, show an increase of 15.7% in tourism revenues of June 2012 (which were 254.5 million euros), in relation to June of 2011. Tourist arrivals in June 2012 were 329.977, showing an increase of 9.7% in relation to June 2011, with most tourists arriving from the United Kingdom.

3. The Pillars of Travel and Tourism Competitiveness

The Travel and Tourism Competitiveness Index (TTCI), published by the World Economic Forum can be used to determine the competitiveness position of a country's tourism among different countries in the world, measuring the factors and policies that make the Travel and Tourism (T&T) sector attractive (Ach and Pearce, 2009; Badr et al., 2009). A higher TTCI score is associated with higher travel intensity (number of air passengers divided by the population of the country) (Ach and Pearce, 2009). Switzerland ranked first out of 139 countries in 2011, with a TTCI score of 5.68, while it similarly ranked first in 2008 and 2009. Germany ranked second in 2011, with a score of 5.50, followed by France (5.41), Austria (5.41) and Sweden (5.34). In 2008 Australia and Spain were also among the top five countries, and in 2009 Canada ranked fifth. Cyprus ranks quite high, having a rank of 24 out of 139 countries in 2011, with a score of 4.89, a rank of 21 with a score of 4.92 in 2009 and a rank of 24 with a score of 4.89 in 2008 (WEF, 2008; 2009; 2011).

TTCI is composed of 14 pillars grouped into three Subindexes. Subindex 1, Regulatory framework, includes the pillars of Policy rules and regulations, Environmental sustainability, Safety and security, Health and hygiene, Prioritization of Travel and Tourism. The policy rules and regulations pillar captures the extent to which the policy environment is conducive to developing the travel and tourism

sector in each country, and it is mostly regulated by Governments (WEF, 2008). Environmental sustainability measures the stringency of each government's environmental regulations, as well as the extent to which they are actually enforced (WEF, 2008). The policies and factors protecting the environment are very important for ensuring that a destination will continue to be attractive for tourists. The Safety and security index shows the level of security of the tourist destination in terms of terrorism, war, political crises, coups and air disasters, crime rates and access to police services (Beirman 2008; Li et al., 2010, Badr et al., 2009). Fatal accidents on air, land or sea, hotel fires or computer crashes can cause fear to tourists. Tourism in America has suffered by the terrorist attacks of September 2001 (Beirman, 2008; UN ECLAC 2010). In addition, political instability and crime have negative effects on tourism (Idowu and Bello, 2010; Beirman, 2008; Cohen and Neal, 2010). The health and hygiene index involves easy access to hospitals, adequate number of available doctors, sufficient number of available beds and easy access to drinking water (Badr et al., 2009). Health crises such as HIV, SARS Bird Flu and Swine flu or the recent pandemic influenza A (H1N1) that started in Mexico and USA, affect tourism demand negatively (Beirman 2008; Li et al., 2010; Oprea, 2010). Prioritization of T&T involves the extent to which the government prioritizes the T&T sector and the budget it gives for the development of new projects. In 2008 Europe had the best score in regulatory framework and the top countries were Switzerland, Germany, Spain, and the United Kingdom.

Subindex 2, Business environment and infrastructure, includes the pillars of Air transport infrastructure, Ground transport infrastructure, Tourism infrastructure, Information and Communications Technology (ICT) infrastructure, Price competitiveness in T&T industry. Air Transport Infrastructure Index involves the quality of existing airports, building new airports, spreading out international air transport network, increasing the number of operating airlines, airport density, and the quality of the international air transport network (Ach and Pearce, 2009; Badr et al., 2009). A high-quality air transport infrastructure reduces distance barriers and affects travel and tourism positively (Ach and Pearce, 2009). On the other hand, strikes by airline staff and baggage handlers disrupt the normal operation of the airports and reduce their quality (Beirman, 2008). The Ground Transport Infrastructure Index involves the number of roads, spreading out ground infrastructure network and enhancing quality of roads and ports (Ach and Pearce, 2009; Badr et al., 2009). Eugenio (2002) refers to the importance of ground transport for attracting foreigners. Tourism infrastructure incorporates the effect of occupancy ratio, which represents the balance between supply and demand. Accommodation is a very important attribute of a destination (Eugenio, 2002). ICT infrastructure involves the Internet, telephone lines, and broadband (WEF, 2008). Idowu and Bello (2010) identify telecommunication infrastructures as a major determinant for tourism in Africa. Price competitiveness is affected mainly by ticket taxes and airport charges, relative consumer prices, taxation, fuel price levels, purchasing power parity, exchange rates, cost of technology, salaries of tourism industry staff

and hotel rates, all of which control the cost of travel (Ach and Pearce, 2009; Badr et al., 2009; Eugenio, 2002; Beirman, 2008; Pantazidis, 1997; Idowu and Bello, 2010). The continuously increasing price of oil has as a result an increase in transportation costs and ticket prices, which can affect tourism demand negatively (Oprea, 2010; UN ECLAC, 2010). Algieri and Kanellopoulou (2009) found that an increase of 1% in oil price caused a reduction in revenues by 0.38% in France, 0.12% in Greece, 0.15% in Spain and 3.1% in Australia. High ticket taxes and airport charges raise the cost of travel (Ach and Pearce, 2009). When air travel costs increase tourism revenues decrease (Thompson and Thompson, 2009) as tourists will switch to an alternative cheaper destination (Ach and Pearce, 2009). As Thompson and Thompson (2009) state this would also mean increase in tax revenue as more tourists will be travelling. Middle East is the least expensive region, in terms of tickets and airport taxes, with an average TTCI score of 6.30. Europe ranks second (score of 5.89) with Luxembourg to be the cheapest country and France, the United Kingdom, and Bosnia and Herzegovina the most expensive. Africa and Latin America have the lowest scores, 5.22 and 5.23 respectively, thus being the most expensive regions (Ach and Pearce, 2009), contradicting Li et al. (2010) who supported that Africa offers cheap tourism products.

Subindex 3, Human, cultural, and natural resources, includes Human resources, Affinity for T & T, Natural resources, Cultural resources (Ach and Pearce, 2009; WEF, 2011). Quality human resources in the economy ensure that the industry has access to the collaborators it needs to develop and grow (WEF, 2008). Affinity for T&T involves human, cultural, and natural resources (Ach and Pearce, 2009). "Natural resources" involves the Number of World Heritage natural sites, Nationally protected areas, Quality of the natural environment and Total known species (WEF, 2008; 2009; 2011). The cultural resources at each country's disposal are also a critical driver of T&T competitiveness around the world.

Table 1 presents the economy's performance on the Travel & Tourism Competitiveness Index (TTCI), for Cyprus for the years 2008, 2009, 2011. Examining Table 1, Cyprus is performing best in pillars Prioritization of T&T, Tourism infrastructure and Affinity for T&T. Regarding subindex 1, Prioritization of T&T is very important for Cyprus and great emphasis is given. Cyprus has competitive advantage in almost all indicators in this pillar (WEF, 2011). Specifically it ranks first in indicators Comprehensiveness of annual T&T data and Timeliness of providing monthly/quarterly T&T data in 2011. Cyprus also has competitive advantage in Government prioritization of the T&T industry (rank 18 in 2011) and T&T government expenditure (rank 11 in 2011) (WEF, 2011). Cyprus has competitive advantage in indicators Business costs of crime and violence (e.g., rank 12 in 2009) and Road traffic accidents (e.g., rank 18 in 2009) of the safety and security pillar (WEF, 2009; 2011). Cyprus also ranks first in Access to improved sanitation and Access to improved drinking water, in the health and hygiene index (WEF, 2008; 2009; 2011). However, Cyprus has competitive disadvantage in all indicators of the environmental sustainability pillar (e.g., rank 113 in Carbon dioxide

emissions and rank 84 in particulate matter concentration, in 2011). Moreover according to the Tourist Satisfaction Survey (Clerides et al., 2006, 2007; Clerides and Pashourtidou, 2007) tourists were not very satisfied with the cleanliness and protection of the natural environment (beaches, trails, nature and forest parks).

Table 1. The performance of Cyprus on TTCI and its pillars, in 2008, 2009 and 2011

Cyprus	Year of publication of TTCI					
	2008	2008	2009	2009	2011	2011
Travel & Tourism Competitiveness Index (TTCI)	Rank/130	Score	Rank/133	Score	Rank/139	Score
Cyprus TTCI index score	24	4.9	21	4.9	24	4.9
Subindex 1: T&T regulatory framework	27	5.2	25	5.4	23	5.3
Pillar 1: Policy rules and regulations	69	4.2	69	4.4	79	4.3
Pillar 2: Environmental sustainability	47	4.7	43	4.8	51	4.8
Pillar 3: Safety and security	23	5.8	12	6.2	26	5.7
Pillar 4: Health and hygiene	43	5.5	45	5.6	43	5.6
Pillar 5: Prioritization of T& T	3	5.9	11	5.7	6	6.2
Subindex 2: T&T business environment and infrastructure	17	5.0	13	5.0	14	5.1
Pillar 6: Air transport infrastructure	25	4.5	21	4.7	21	4.7
Pillar 7: Ground transport infrastructure	17	5.5	19	5.3	20	5.3
Pillar 8: Tourism infrastructure	3	7.0	8	6.6	1	7.0
Pillar 9: ICT infrastructure	34	4.0	32	4.3	31	4.6
Pillar 10: Price competitiveness in the T&T industry	95	4.3	82	4.4	109	4.2
Subindex 3: T&T human, cultural, and natural resources	40	4.3	37	4.4	44	4.2
Pillar 11: Human resources	63	5.0	27	5.6	24	5.5
Pillar 12: Affinity for T&T	5	6.4	5	6.4	11	5.7
Pillar 13: Natural resources	106	2.4	111	2.4	117	2.3
Pillar 14: Cultural resources	32	3.7	38	3.1	47	3.2

Source: World Economic Forum, 2008; 2009; 2011

In subindex 2, Cyprus ranks first in tourism infrastructure pillar in 2011, and similarly ranked high in 2008 (rank 3) and 2009 (rank 8) (WEF, 2008; 2009; 2011). Information from WEF (2008; 2009; 2011) further shows that Cyprus ranks first in indicators Hotel rooms (2008, 2009, 2011) and Presence of major car rental companies (2008, 2011) and also has a good position (rank 12 in 2011) in ATMs accepting Visa cards (WEF, 2008; 2009; 2011). That means that travelers have a lot of choices of where they are going to stay, they have easy access to cash and exceptional car rental facilities, all of which contribute to comfortable vacations. Cyprus also ranks high in indicators Departures per 1,000 population (rank 18 in 2011) and Airport density (rank 9 in 2011) (WEF, 2011). However, Cyprus ranks

low in Quality of air transport infrastructure (rank 43 in 2011), Available seat kilometers (rank 87 and 58 respectively in 2011), Number of operating airlines (rank 37 in 2011) and International air transport network (rank 51 in 2011). Cyprus has competitive disadvantage in quality of domestic transport network (rank 80 in 2011) and Quality of port infrastructure (rank 39 in 2011), but ranked 23rd in Quality of roads and 24th in road density (WEF, 2011). The Tourist Satisfaction Survey of 2006 (Clerides et al., 2006, 2007; Clerides and Pashourtidou, 2007) revealed that tourists were not satisfied with the bad image of ports and the poor picture of Larnaka's old airport. The new airport in Larnaka, which opened in November 2009, is expected to gradually improve the rank in this pillar. Cyprus has competitive disadvantage in four out of five indicators of the Price competitiveness pillar, namely Ticket taxes and airport charges (rank 77 in 2011), Purchasing power parity (rank 122 in 2011), Fuel price levels (rank 93 in 2011) and Hotel price index (rank 94 in 2011). It has competitive advantage in Extent and effect of taxation (rank 12 in 2011) (WEF, 2008; 2009; 2011). Cyprus ranks high in indicators Telephone lines (rank 15 in 2011) and mobile telephone subscribers (rank 18 in 2009) of the ICT infrastructure pillar.

Regarding subindex 3, Cyprus, as shown in table 1, ranks high (e.g., rank 5 in 2008) in the pillar Affinity for T&T (scores 6.4 in 2008 and 2009 and 5.7 in 2011) (WEF, 2008; 2009; 2011). Cyprus has competitive advantage in all three indicators of this pillar: tourism openness (rank 14 in 2011), Attitude of population toward foreign visitors (rank 18 in 2008) and Extension of business trips recommended (rank 14 in 2009) (WEF, 2008; 2009; 2011). According to CTO's strategic plan the competitive advantage of Cyprus is the great diversity in the tourist experience that Cyprus offers in a relatively small geographical area (CTO, 2010). However, in the pillar of Natural resources it has its lowest scores (score 2.3 in 2011). Cyprus has competitive advantage in indicators Primary education enrollment (e.g., rank 5 in 2008), Quality of the educational system (e.g., rank 10 in 2009) and Life expectancy (e.g., rank 12 in 2009). Regarding cultural resources, Cyprus has competitive advantage only in indicator Sports stadiums (rank 6 in 2009) and competitive disadvantage in all other indicators, including number of international fairs and exhibitions and creative industries exports (WEF, 2008; 2009; 2011).

4. Factors that Affect Tourist Demand

Tourist demand is directly or indirectly affected by many factors, including economic recessions and global financial problems and crises, political instability, natural disasters, climate change, energy costs, epidemics, technological failures and management failures (Beirman, 2008; Hall, 2010; Li et al., 2010; Sola, 2008).

Natural disasters boost tourists' fears of catching a disease or the fear of 'no-escape' (UN ECLAC, 2010; Sola, 2008; Li et al., 2010; UNWTO, 2009). Some examples include the Indian Ocean tsunami of 2004, which caused the death of 3000

tourists in Thailand, Hurricane Katrina in New Orleans in 2005, the tsunami in Japan in 2011, while Caribbean destinations suffer from the impact of natural events and climate change (Beirman, 2008; Cohen and Neal, 2010). Pollution, oil spillages, climate change and sea-level rise can lead to natural disasters, and this has resulted in the development of a new kind of tourism, the 'last chance to see' or 'last chance' tourism (Hall, 2010).

Various methods have been implemented in the examination of the factors that affect tourism demand for many countries, mainly using quantitative approaches with regression-type models. The relationship between income of origin countries and tourism demand is supported in many articles, including Algieri and Kanellopoulou (2009), Li et al. (2010), Ach and Pearce (2009), Dritsakis (2004), Halicioglu (2004), Önder et al. (2009), Pantazidis (1997) and Lim (1999). More specifically, Halicioglu (2004) showed that, among world income, transport costs and relative prices, world income provided the most explanatory power to the number of arrivals in Turkey, for the period 1960-2002. Pantazidis (1997) examined how tourism expenditure in Greece (represented by total travel receipts, total travel expenditures and receipts from the main countries sending tourists) is affected by the level of income of the main origin countries and the relative prices between Greece and its main competitors and found that income and relative prices were the major determinants. The study was performed during 1980-1994, when the Greek currency was drachma, and found that the exchange rate did not affect tourism expenditure. Önder et al. (2009) found that price (real exchange rate) and income (GDP per capita of Organisation for Economic Co-operation and Development (OECD) countries) were the main determinants of international tourist arrivals in Izmir between 1980 and 2005, while local factors related to the development level of Izmir (GDP per capita of Izmir) and transportation public capital stock did not affect arrivals. Dritsakis (2004) investigated changes in the long-run (1960-2000) demand for tourist arrivals to Greece from Germany and Great Britain (the two most important sources of tourism for Greece) and found that tourism was positively related to income in the origin countries, and negatively related to tourism prices in Greece, transportation costs and real exchange rates. Algieri and Kanellopoulou (2009) state that as holidays are regarded as 'luxury' or superior good, an increase on individual's income will increase the demand for holidays. According to Algieri and Kanellopoulou (2009) income is the key determinant of tourism exports for Greece and Australia, whereas in France and Spain the cost of living for tourists in the destination country is the main factor that drives tourism revenues. Thompson and Thompson (2009) similarly examined Greek tourism demand along with the impact of the euro switch and supported that tourism in Greece is a normal good, thus tourism revenue increases as income around the world increases. Lim (1999) identified a positive relationship between income and tourism demand and a negative relationship between prices and tourism demand, but did not find any evidence for a relation between demand and transportation costs. Thompson (2010) modeled tourism demand in Spain, Italy, and Greece, and similarly supported its

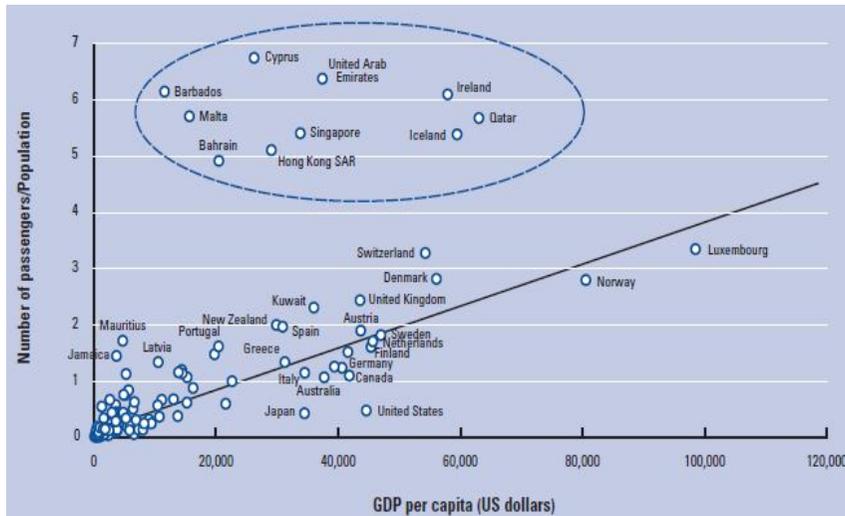
relation with income. Idowu and Bello (2010) did not identify world income as a major determinant for Africa for the period 1995-2007.

The appreciation of a county's currency creates superior prospects for inhabitants to travel abroad. On the other hand, this discourages inbound tourism and reduces the competitiveness of the tourist destination (Dritsakis, 2004; Idowu and Bello, 2010; Thompson, 2010; Algieri and Kanellopoulou, 2009). When Greece switched from drachma to euro in 2001 this decreased the number of tourist arrivals but increased tourism revenue by 18%, whereas when Spain adopted the euro it affected tourism negatively (Thompson and Thompson, 2009; Thompson, 2010). Pantazidis (1997) found that the use of a beneficial exchange policy for tourists in order to increase competitiveness of a destination is only a short term solution as this increases the cost of services. Mladenović and Zlatković (2009) showed that the reduction of capital inflows into the West Balkan countries, as a result of the global economic crisis, exposed the exchange rate regimes, having a negative effect on the outbound tourism industry.

Reductions in the host country's relative prices have a positive effect on tourism revenues (Dritsakis 2004; Idowu and Bello 2010; Önder et al., 2009; Thompson 2010; Pantazidis 1997). However Divisekera (2003) found that for popular tourism destinations demand is relatively inelastic. The coefficient of the price variable should be interpreted as an indicator of competitiveness (Algieri and Kanellopoulou, 2009). If a country is able to overcome competition from substitute countries, there will be a considerable amount of revenues (UN ECLAC, 2010). Pantazidis (1997) states that when tourists choose where to travel they take into consideration the relative prices between their country and the destination and the relative prices between different destinations.

Ach and Pearce (2009) examined the factors that significantly affected the total number of passengers arriving and departing for a given country, and found that these were the tourism competitiveness indicators making up the TTCI, the GDP per capita of the destination country and the average distance traveled to reach that destination. For example, tourists are usually indifferent to price fluctuations or increases in transportation costs in neighboring counties (Thompson, 2010; UN ECLAC, 2010). Using data for the year 2007, a negative relationship was found between distance and travel intensity (WEF, 2008; Ach and Pearce, 2009), justified by the fact that when distance increases cost increases as well. A positive relation was found between travel intensity and GDP per capita, for the year 2007. Figure 1 presents this relation (WEF, 2008; Ach and Pearce, 2009). A similar positive relation between international departures and overall per capital GDP growth was found by Giacomelli (2006).

Figure 1. Travel intensity with GDP per capita for 2007



Source: World Economic Forum, 2008

As can be seen in Figure 1, in a number of countries, including Cyprus, travel intensity was not significantly affected by GDP per capita, in 2007. The remaining nine countries, which are outliers, not conforming with this relation, are Malta, Barbados, Hong Kong, Ireland, Iceland, Bahrain, Qatar, United Arab Emirates and Singapore. Similar to GDP per capita, Ach and Pearce (2009) found that in these ten countries travel intensity is not significantly affected by the TTCI score or distance either, but on the contrary they seem to attract a large number of tourists in relation to their population, irrelevant to these three factors. Cyprus with a TTCI score of 4.87, much higher than the average, appears to be a popular tourist destination.

Giacomelli (2006) associated the utility derived by visiting one destination with risks, attractions, facilities, tourism prices in the destination country, together with transport costs and individuals' preferences. According to Giacomelli (2006) tourists choose the destination that offers the greatest utility level. Neoclassical and non-neoclassical factors can affect this level. Neoclassical determinants include tourists' disposable income, which is expected to have a positive effect on utility level as well as destinations' tourism price and bilateral transport costs, which might have a negative effect (Algieri and Kanellopoulou, 2009; Beirman, 2008; Clerides and Pashourtidou, 2007; Giacomelli, 2006; Ach and Pearce, 2009; Eugenio 2002; Giacomelli 2006; UN ECLAC, 2010). Non-neoclassical determinants are associated with the heterogeneity assumption and the uncertainty assumption. The Heterogeneity assumption relies on the fact that different destinations provide

different daily characteristics, which is expected to lead to an increase in tourism utility (Giacomelli, 2006). Exogenous or natural factors are related to attractions, including geographic location, environmental assets, climate, natural beauty, cultural diversity and heritage, while endogenous or man-made factors, are related to tourist facilities, such as accommodation, entertainment services, which determine the competitive advantage of a destination according to its attractiveness, efficiency, productivity, and development potential (UN ECLAC, 2010; Dritsakis, 2004; Giacomelli, 2006; Eugenio, 2002, UNWTO, 2009). Between counties with the same level of attractions, it is very possible for tourists to prefer the country with the higher level of facilities in order to enjoy the destinations' attractions (Giacomelli 2006).

Different individuals have different reasons to travel. There are leisure customers, business customers, independent travellers, package holidaymakers, age-specific groups. Length of stay also influences Tourism Expenditure (consumption) (Clerides and Pashourtidou, 2007). Some tourists look for adventure holidays, others for leisure and activity-related breaks and others for extreme and risky sports holidays, while some travellers look for seaside, others for natural parks, mountains or the city (Eugenio, 2002).

The Uncertainty assumption (Giacomelli, 2006) can be explained through destinations' risk and risk coping strategies adopted by tourists. Tourism risk is classified into false risks (i.e. the attitudes about a given destination formed by the lack of adequate information), which are expected to increase with geographical distance, and real risks (i.e. the attitudes about a given destination that are supported by perfect information), which include health and political risks (Giacomelli, 2006). Giacomelli (2006) identifies two strategies for coping with tourism risk. First, information collection on destinations' features, which is expected to have a positive effect on the utility level and is easier for countries with economic growth, a well educated population, and adequate internet intensity. Second, the destinations' strategies aimed at attracting foreign tour operators, where if tourists are risk adverse this is expected to have a positive effect on the utility level.

Demand for a specific destination depends also on tourism demand in previous years. People share their experiences with friends, and it is very common to influence them to choose the same destination for vacation (Thompson, 2010). This is known as past experience or "word of mouth". According to Idowu and Bello (2010) it is one of the major determinants in Africa. Changes over time in tastes and preferences may also affect tourism demand (Algieri and Kanellopoulou, 2009). Some destinations become less popular and out of fashion while others appear. Needs and expectations are constantly changing.

The literature in relation to tourism in Cyprus still remains scarce: Sinclair et al. (2005) examined how changes in tourism demand can have considerable economic impacts on the economy of Cyprus (and other small island economies), Blake et al. (2003) examined the impact of EU accession on tourism in Cyprus (and Malta), while Adamou and Clerides (2009) examined the link between tourism

specialization and economic growth for Cyprus, relating the real per capita growth of GDP to state variables, which describe the initial state of the economy, and control variables, which are determined either by the government or by the actions of private agents. Finally, Clerides et al. (2006; 2007) and Clerides and Pashourtidou (2007) provided evidence from a Tourist Satisfaction Survey. However, no previous research has specifically examined in a quantitative framework the factors that affect tourism in Cyprus, which is the aim of the current study.

5. Methodology and Data Description

Annual data were collected for the years 1995-2010. The period under examination includes the year 2001 when arrivals of visitors in Cyprus were 2.7 million (peak value) as well as the years of decline. Time series regression was used. The regression analysis was performed using SPSS, version 19.

Two dependent variables representing tourism were used, namely tourist arrivals and tourism expenditures, both of which provide economic benefits to a country. Annual arrivals comprise the starting mechanism of the tourism industry. They show the flow of tourists to a country each year and express tourism demand, representing the country's market share of the worldwide annual arrivals (Badr et al., 2009). Tourism Expenditure shows the amounts of money that travelers spend for a specific destination. Data for tourist arrivals and tourism expenditure were collected from CYSTAT's database. The independent variables in the model were relative prices of Cyprus with its main competitors, Gross Domestic Product (GDP) of Cyprus and the level of income of the main countries that send tourists to Cyprus.

5.1 Relative Prices

In order to examine if a destination is expensive or cheap it is necessary to compare it with alternative tourist destinations. As Pantazidis (1997) explains, there is no need to compare destination's prices with prices of countries that do not offer the same touristic product. For the case of Cyprus such countries would be the United Kingdom, Germany, Switzerland, Norway, Russia, Sweden and France, which do not offer the "sun and sea" product, as opposed, for example, to Greece. Consequently, to form the variable relative prices, competitors' prices should be taken into consideration.

In order to examine the influence of relative prices, data for purchasing power parities (PPPs) were collected from Eurostat's database. PPPs indicate how many currency units a particular quantity of goods and services costs in different countries. PPPs are used to analyze relative price levels across countries. For this purpose, the PPPs are divided by the current nominal exchange rate to obtain a price level index (PLI), which expresses the price level of a given country relative to others (Eurostat 2011b). PPP equals PLI when comparing EU countries, however in order to compare EU with non-EU countries PLI is used. Although PPP values may

contain irrelevant information with tourism it is considered that this index includes in a large degree the cost of goods and services that tourists consume at destination and that any variation in this index reflects variation in prices (Pantazidis, 1997).

Dividing Cyprus PPPs and PLIs with its eight main competitors (Spain, Portugal, France, Italy, Turkey, Greece, Malta, Croatia) and with the European Union Average, nine different variables representing the relative prices of Cyprus with its competitors were formed. The relative price variables were entered with a one-year lag (t-1) in the models, as travelers in general plan their holidays one year in advance. Information on which are the main competitors of Cyprus were collected from CTO and CYSTAT, as well as from Clerides and Pashourtidou (2007). It should be noted that to avoid multicollinearity problems, while the eight variables that represent relative prices were used together in the models, the relative price with the European Union Average was used separately.

5.2 Gross Domestic Product (GDP) of Cyprus

GDP of the destination is an indicator of the level of economic growth and has been shown in related literature to have a positive relationship with tourist arrivals. As shown in Figure 1, for the year 2007, Cyprus has high travel intensity compared with its GDP per capita (GDP divided by population), since it was an outlier in the corresponding relation. However it is important to analyze how GDP affects tourism in Cyprus for different years. Data for GDP at market prices in Millions of Purchasing Power Standards (PPS) for Cyprus were obtained from Eurostat's database. GDP data in national currencies can be converted into PPS using PPPs that reflect the purchasing power of each currency, rather than using market exchange rates; in this way differences in price levels between countries are eliminated (Eurostat, 2011a).

5.3 Level of income of the main countries that send tourists to Cyprus

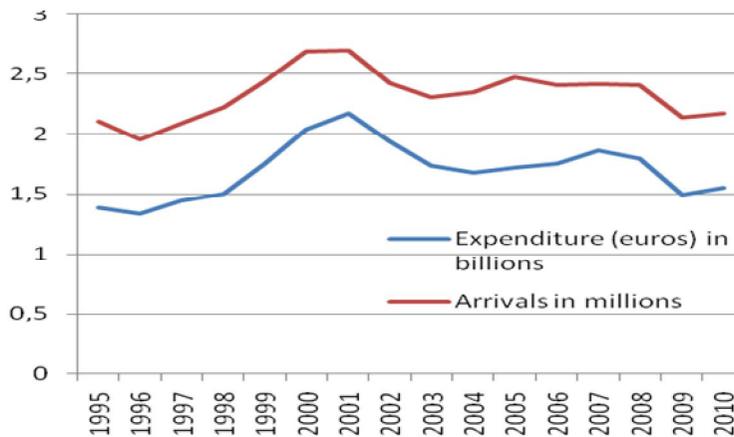
Income has been used as a predictor in many previous studies and has been measured in different ways. In this study "income" represents the income of the main countries that send tourists to Cyprus, namely the United Kingdom, Germany, Switzerland, Norway, Sweden, France and Greece, similar to Pantazidis (1997) who examined the case of Greece. It is measured as the weighted average of the GDP in millions of PPS of the aforementioned countries. Weights were calculated based on the proportion of the expenditure of each country on the total revenue of tourism in Cyprus. Expenditure per capita, arrivals and total revenue from tourism were taken from CYSTAT' database and GDP in millions of PPS for each country that sends tourists to Cyprus from Eurostat's database.

For error autocorrelation and stationarity purposes, the first differences of the logarithmic series were used in all the models, accordingly. The criteria that were followed in order to arrive at the final model for each dependent variable were significance of independent variables and validity of model.

6. Results

Figure 2 shows the two dependent variables, expenditure and arrivals, for the years 1995-2010.

Figure 2. Tourism expenditure and arrivals in Cyprus, 1995-2010



Source: Cyprus Statistical Service, www.mof.gov.cy/cystat

As the figure shows the two variables move together. The correlation coefficient between the two variables was 0.957 (p -value <0.001) which is very high and reveals a strong positive relationship between the two variables. However, as Figure 2 depicts, if we look at years 2001 (terrorist attack in USA) and 2008 (beginning of global financial crisis), the effect of international crises appears to be different for the two variables. This motivated the need to examine both variables as measures of tourism in Cyprus.

First, the dependent variable tourism expenditure was modeled, with independent variables income, GDP of Cyprus and relative prices of the eight competitors (Greece, Spain, France, Italy, Malta, Portugal, Croatia and Turkey). The variable GDP of Cyprus was significant ($p<1\%$), having a positive relation with tourism expenditure. In addition, the variable relative prices with Greece was found marginally significant ($p<10\%$), with a negative coefficient. The variable relative prices with Greece appears to have a negative effect on the tourism expenditure in Cyprus, especially compared to all the other competitors of Cyprus, since when each variable representing relative prices was entered individually in a simple regression model, only the variable corresponding to relative prices with Greece was found to be significant. Tourism expenditure was modeled next when the relative prices of the eight competitors was replaced by one variable, corresponding to the relative

prices with the European Union. In this case, the only variable that was found significant was the GDP of Cyprus, with a positive relation with tourism expenditure. All the previous results appear in Table 2.

Table 2. Determinants of tourism expenditure in Cyprus: significant predictors and estimated coefficients

	Variable	t	beta	p-value	Model R ²
Regression 1: Independent variables: GDP of Cyprus, income and relative prices of eight competitors	GDP of Cyprus Relative prices: Greece	3.600 -1.998	1.799 -1.735	0.004 0.071	0.698
Regression 2: Independent variables: GDP of Cyprus, income and relative prices with European Union	GDP of Cyprus	4.144	2.159	0.001	0.589

The second dependent variable that was examined was tourist arrivals. Interestingly enough, with independent variables income, GDP of Cyprus and relative prices of the eight competitors, the results showed that in addition to the two determinants of tourism expenditure, GDP of Cyprus ($p=0.009$) and relative prices with Greece ($p=0.023$), the income of the main origin countries also significantly positively affected tourist arrivals in Cyprus ($p=0.05$). Next, tourist arrivals were modeled with the GDP of Cyprus, income and the relative prices with the European Union, where the results showed that, similar to tourism expenditure, only the GDP of Cyprus significantly positively affected tourist arrivals. All the results regarding the determinants of tourist arrivals appear in Table 3.

Table 3: Determinants of tourist arrivals in Cyprus: significant predictors and estimated coefficients

	Variable	t	beta	p-value	Model R ²
Regression 1: Independent variables: GDP of Cyprus, income and relative prices of eight competitors	GDP of Cyprus Relative price: Greece Income of origin countries	3.230 -2.686 2.227	0.992 -1.415 0.090	0.009 0.023 0.050	0.782
Regression 2: Independent variables: GDP of Cyprus, income and relative prices with European Union	GDP of Cyprus	3.653	1.388	0.003	0.527

7. Conclusions

Tourism plays an essential role in the development of the Cyprus, making it one of the most tourism dependent places in the world, with a high tourism ratio in domestic supply (Eurostat, 2010; Clerides and Pashourtidou, 2007; Financial Mirror, 2008). The above, combined with the fact that competition is increasing and the global financial crisis is negatively affecting the economies worldwide, has made it imperative to study the factors that affect tourism demand in Cyprus. The related literature is inadequate, and therefore the current paper has provided new insight and additional empirical evidence on the topic.

The results have shown that the main determinants of tourism in Cyprus are the relative prices between Cyprus and Greece, the GDP of Cyprus and the level of income of the main countries that send tourists to Cyprus. More specifically, the study has found evidence that tourism expenditure is affected by both the GDP of Cyprus and the relative prices between Cyprus and Greece, whereas tourist arrivals, apart from these two factors, are additionally affected by the level of income of the main countries that send tourists to Cyprus, namely the United Kingdom, Germany, Switzerland, Norway, Sweden, France and Greece. The current study has thus shown that, although tourist arrivals and tourism expenditure are highly correlated, they are not affected by the same factors and different models are required to explain the variation in the two variables. The significant, positive relation between arrivals to Cyprus and income level of origin countries, could intuitively imply that the global financial crisis, which lowers the income level in origin countries, has a larger effect on the number of reservations, causes flight or hotel cancellations and urges individuals to prefer domestic rather than outbound tourism. It could also be seen from a different point of view: when individuals are in a good economic condition they always consider holidays abroad, to be a vital component in their lives and Cyprus appears to be a favorite option. Overall, Cyprus, as the destination country, appears to be severely affected by the reduction of income in origin countries.

The results have shown that, among the relative prices of the eight main competitors of Cyprus (Spain, Portugal, France, Italy, Turkey, Greece, Malta and Croatia), only the relative prices with Greece significantly affect both tourist arrivals and tourism expenditure in Cyprus; when prices in Cyprus increase relative to Greece, tourist arrivals and expenditure in Cyprus decrease. Consequently Greece has been shown to be the most significant competitor of Cyprus. Examination of the data obtained from Eurostat, regarding the PPPs of Cyprus and Greece for the period under examination in the study, 1995-2010, shows that during this period Cyprus had higher prices than Greece for the greater part of the interval. Between destinations that offer similar touristic products, it is easy for tourists to choose the cheapest one (Ach and Pearce, 2009; UN ECLAC, 2010). Greece would be the obvious choice in this case. However, it should be noted that the PPP of Greece has an increasing trend, becoming higher than Cyprus after the year 2008 (which marks

the beginning of the global financial crisis) and thus the situation might change in favor of Cyprus in the near future.

The fact that Cyprus is affected so much by Greece was expected. Both countries offer similar touristic products (sun and sea), they are famous for their warmth and hospitality, they have incredible culture, history and heritage, and above all they both have fantastic weather (dry, sunny Mediterranean climate), surrounded by clear blue water and fine beaches, along with appetizing food and exiting nightlife. These traits make both countries attractive to all ages. Finally, both destinations compete in attracting British tourists, since the United Kingdom is the main country that sends tourists to both destinations.

The positive relationship between income and tourism and the negative relationship between relative prices and tourism that have been found in the current study have been supported in related literature. Previous studies have supported that tourists will switch to an alternative cheaper destination when possible, and stressed that price competitiveness is significant (e.g., Ach and Pearce, 2009; UN ECLAC, 2010). Lim (1999), performing a meta-analysis using more than 100 studies from 1961 to 1994, showed that in 65 studies income had a positive relation with tourism, while in 48 studies prices had a negative relation. Pantazidis (1997), using similar variables as in the current study, examined tourism expenditure in Greece, and found that income and relative prices are the major determinants of tourism expenditure of Greece. The current study similarly found that relative prices are significant predictors, but income was shown to affect tourist arrivals and not tourism expenditure for Cyprus. Halicioglu (2004) found that for Turkey world income provides the most explanatory power to the number of arrivals, similar to the current study, but, contrary to this study, relative prices were not found significant. Dritsakis (2004) found that tourism in Greece was positively related to the level of income in Germany and Great Britain and negatively related to tourism prices in Greece, transportation costs and real exchange rates. The relationship between income and tourism demand was further supported by Algieri and Kanellopoulou (2009), Thompson and Thompson (2009), Li et al. (2010), Ach and Pearce (2009), Önder et al. (2009), Beirman (2008), Clerides and Pashourtidou (2007), Eugenio (2002) and Giacomelli (2006), but it was not supported by Idowu and Bello (2010) for the case of Africa. The relationship between price and tourism demand was further supported by Algieri and Kanellopoulou (2009), Idowu and Bello (2010), Thompson (2010), Önder et al. (2009), Beirman (2008) and Giacomelli (2006), but it was not supported by Divisekera (2003).

The GDP of Cyprus was found to be significant in all the models under examination, positively affecting tourist arrivals and tourism expenditure: when the GDP of Cyprus increases, Tourist Arrivals and expenditure increase as well. Figure 2, using data from Ach and Pearce (2009) presented travel intensity with GDP per capita for the year 2007 for different countries, and showed a positive relation. Giacomelli (2006) further supported a positive relation of GDP with tourism, but this relation was not supported by Önder et al. (2009). However, even though Ach

and Pearce (2009) identified a positive effect of GDP on tourism, Cyprus was found to be an outlier in this relation (Figure 2). This means that Cyprus attracted a larger number of tourists compared to what was expected considering its level of GDP per capita. Contrary to Ach and Pearce (2009), this study has found that the GDP of Cyprus does have a positive relation with tourism. Intuitively the results of the current study suggest that tourists prefer travelling to a country that is wealthy and developed and can offer them facilities and services of high level: a year with a higher GDP in Cyprus is associated with a significant increase in tourist arrivals and tourism expenditure.

Nowadays tourists use many means of communication, including the internet, TV travel channels and travel magazines. All these make them more experienced, knowledgeable and well-informed on different tourist destinations. Ach and Pearce (2009) showed that if the TTCI index is improved by 10% travel intensity might increase by 3%. This shows that the pillars of TTCI, along with the corresponding rankings of Cyprus, are worth examining and considering for policy-making. The significance of price competitiveness found in the current study indicates that, as tourists tend to choose the cheapest destination, between similar countries Cyprus has to concentrate more in offering a cheapest touristic product. Cyprus is not a cheap destination. As indicated in Table 1, Cyprus is not performing well in pillar Price competitiveness in the T&T industry of the TTCI, with a rank of 95 in TTCI of 2008, rank of 82 in 2009, and rank of 109 in 2011. This evidence, in combination with the findings of the current study show that Cyprus should improve its price competitiveness, as this affects the tourism sector negatively. Cyprus has competitive disadvantage in four out of five indicators in Price competitiveness in the T&T industry pillar, namely Ticket taxes and airport charges, PPP, Fuel price levels and Hotel price index and has competitive advantage only in Extent and effect of taxation (WEF 2008, 2009, 2011). Moreover, as indicated in the Tourist Satisfaction Survey of 2006, tourists find Cyprus expensive regarding shopping, amusement parks, nightlife, sports, cultural activities and events (Clerides et al., 2006, 2007; Clerides and Pashourtidou, 2007). Since "word of mouth" is important when considering alternative destinations (Gonzalez et al. 2007), it is clear that an expensive destination will have low "customer" satisfaction and quality perceptions.

Cyprus will continue to face increased competition, since other countries at a lower level of development, like Croatia, Turkey and Egypt, have lower operating costs and could offer better "value for money" for their touristic product (Clerides and Pashourtidou, 2007; CTO, 2010). Moreover, one-dimensional development and standardization of the touristic product (Sun and Sea) is a potential weakness, causing inevitable seasonality (CTO, 2010). These, in combination with the results of the study, prove that Cyprus has to find better ways to reduce prices for tourists, especially compared to prices in Greece. However, reduction in prices is quite hard as hot weather in Cyprus, low water supply and increases in oil prices are inevitable factors that affect operational and transportation costs (Clerides and Pashourtidou, 2007; CTO, 2010), while the global financial crisis has affected the economy of

Cyprus, as well. Thus, it appears that the best way to boost tourism, apart from trying to reduce prices, could be concentration on quality and differentiation of the touristic product that Cyprus offers, in order to satisfy the visitors with new needs and various interests (CTO, 2010). This is in line with the results of this study that show that the GDP of Cyprus (economic growth) positively affects tourism. Furthermore the fact that British tourists comprise the higher proportion of all tourists (Clerides and Pashourtidou, 2007; Financial Mirror, 2011) makes the sector to be extremely dependent on this market's fluctuation and suggests that expansion and attraction of new markets is beneficial and will minimize the risk.

As Table 1 shows, Cyprus has competitive disadvantage in pillars natural and cultural resources. Regarding cultural resources Cyprus has competitive advantage only in indicator Sports stadiums and competitive disadvantage in Number of World Heritage cultural sites, Number of international fairs and exhibitions and Creative industries exports. In order for Cyprus to differentiate its product and attract tourists, emphasis should be given on culture and environment (CTO, 2010). Promotion of culture can be done with the development of new museums, information centers, workshops and the organization of international events and festivals or other artistic, cultural and folklore events (CTO, 2010), through which Cyprus can promote its history, civilization, tradition, customs, arts and handicrafts. Regarding natural resources, Cyprus has competitive disadvantage in all indicators: Number of World Heritage natural sites, nationally protected areas, Quality of the natural environment and Total known species. It could be suggested that more strict measures and regulations for the protection of the environment should be taken. CTO (2010) plans on the development of new environmental centers, cycling routes, camping sites, protection of salt-lakes and protection of the local flora and fauna, which can improve this pillar and offer Cyprus competitive advantage over the competitors.

At the same time Cyprus should retain its competitive advantages in pillars Tourism infrastructure index, Prioritization of Travel and Tourism, Affinity for Travel & Tourism, and to other indicators such as Access to improved sanitation and Access to improved drinking water, in all of which Cyprus is exceptional compared to other countries. The good rankings in the Tourism infrastructure index show that travelers have a lot of choices of accommodation and easy access to cash and car rental facilities. The competitive advantage in Affinity for T&T pillar shows that Cyprus is a warm and hospitable island.

A period of 16 years has been examined in the current study, based on data availability. A larger time period could provide evidence regarding possible changes in the determinants of tourism in Cyprus through time, in combination with internal and external political and economic events. In addition, in future studies a larger number of variables could be considered, for example incorporating numerical information related to the pillars of the competitiveness index in the statistical model itself. This could provide a more complete picture of the topic, especially since

Europe is constantly changing, the financial crisis is affecting the Eurozone and the impact on tourism is expected to be larger in the coming years.

Summing up, the current study has provided evidence and interesting information in an area that is underexplored in relation to Cyprus. The results indicate that tourism in Cyprus will benefit from improvement of price competitiveness, concentration on high quality and differentiation of the touristic product, as well as from expansion in new markets. The global financial crisis effects could thus be minimized and the island can continue to be a popular touristic destination.

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