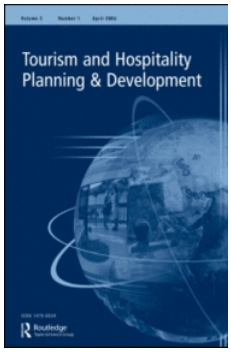
The Impact of Maritime Tourism on the Greek Economy via the Tourism Satellite Account



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Abstract

Maritime tourism is a special interest tourism, showing significant demand increase worldwide. The activities of cruising, yachting and coastal tourism shipping constitute the Greek market of maritime tourism.

The aim of this paper is to estimate the economic impact of the maritime tourism industry on the major macroeconomic factors of the Greek economy.

The Tourism Satellite Account *(*TSA*)* has been applied by several countries to estimate the economic impacts of the traditionally designated tourisr related industries, as well as all industries participating in the tourist economy *(*Strathclyde University,2004*)*, but not for the economic effects of specia interest tourism, as maritime tourism. Up until today there has not been any application of the method in Greece neither for the total tourism industry, nor for a specific tourism "sector". The investigation of the theoretical and empirical frames of maritime tourism in Greece as well as the adaptation of Tourism Satellite Account tables, are a preconditioned fulfilment of the research. Since the TSA tables require information with economic value, whicl is not found in the recorded data by many public services, primary research has been conducted in order to collect necessary data. The data obstacle became higher since maritime tourism is not an immiscible activity but a combination of other sectors that's why the overall estimation and evaluation of the sector demands data from different but related sources.

The paper concludes by presenting the final results of the economic impacts of maritime tourism on the major macroeconomic values of the Greek economy.

Introduction

There has been a great deal of research devoted to estimating visitor expenditures in countries, regions, cities, and other areas as related to specific events. Such estimates are essential for producin comprehensive estimates of tourism's economic benefits in an area (Frechtling, **2006**). All industries that produce commodities or services that would cease to exist or would exist only at a substantial reduced level in the absence of tourism considered tourism industries. These include as well transportation, recreation and entertainment services (Smith, **2006**) which are offered inseparably by maritime tourism.

The purpose of this paper is to examine the special interest tourism which includes all the activities indissolubly connected with the sea, as well as to evaluate their impact on the major macroeconomi values of the Greek economy. In an attempt to achieve the above purpose, the theoretical and empirical frameworks of the activities which make up maritime tourism are being analysed. Furthermore, the major economic impacts which are brought about by the main activities of maritime tourism (cruising, yachting and coastal tourist shipping) on the Greek economy are being evaluated. Therefore, clear conceptual determination of the maritime tourism products through the definitions, which are acceptable internationally, is necessary. Where there is a lack of such commonly acceptable definitions, they are specified through the conceptual analysis of the sub-products of maritime tourism as they are supplied in the market and as they are described by the carriers of supply (enterprise and demand (consumers).

The sub-products supplied by maritime tourism and for which there is no literature and previous research, have been examined, analysed and precisely clarified so that their scientific integration in the conceptual context of tourism is possible.

The lack of statistical data of economic impact have led to the conduction of empirical researches, which focused on the economic structure of revenue on the supply side and on the structure of the consumption expenditure of tourists who purchased products of maritime tourism (Diakomihalis *et al*., **2007**, p.8). Finally, the evaluation of economic impact brought about by the three major activities maritime tourism in Greece has been achieved by the application for the first time of a Tourism Satellite Account. Greece was not included in the table of the "70 countries with TSA projects in progres of the recently published paper entitled "Progress in Tourism Satellite Account Implementation and Development" (Libreros *et al*., **2006**, p.85).

This evaluation will be expressed through the quantitative approximation of the major macroeconomic values (tourist consumption, gross domestic product, national income, balance of invisible transactions, employment, investments, and public revenue).

The significance of the study is its determination to cover the lack of research concerning a) the theoretical approach of the issue through which the clear specification of the content of each activity of maritime tourism as it is exercised in Greece arises, and b) the evaluation of the economic impact of maritime tourism on the major macroeconomic values of the Greek economy and the integration o these activities in the generated tourist product of the country.

Maritime Tourism

The Concept of Maritime Tourism

The concept of maritime tourism at an international level contains and includes the total of tourist, recreational and leisure activities which take place in the marine environment of a country receiving and offering hospitality to tourists. Maritime tourism therefore, is the special form of tourism by the selection of which the consumer-tourist decides to spend most or all of his vacation time "on board", selecting as a place of stay and recreation a boat which offers a predetermined programme of maritime touring or a vessel on which he can co-decide the programme of maritime tour to be performed In both cases, the boat or vessel is simultaneously a means of transport (Diakomihalis, **2006a**, p.26). Marine tourism includes, besides "on-board" vacation activities (mainly cruising and yachting that constitute maritime tourism), a variety of coastal activities such as shows with sea mammals (whales, dolphins, seals), walks by the sea, water skiing, wind surfing, underwater fishing, scuba diving, swimming and tours to maritime parks. Therefore, issues pertaining to the impact of maritime tourism on insular societies, the natural borders of which are defined by the sea surrounding them, constitute a significant field for research.

Maritime tourism is widely regarded as one of the world's largest industries of contemporary tourism, with a significant participation in the tourist economies of the countries which have developed it (Hall, **2001**) and with a tendency for continuous and fast rates of development (Orams, **1999**). Nevertheless, at an international level the sector is characterized by a great difficulty in the recording of statistical data for the precise estimation of its real size. A characteristic evidence of that is that the exact number of tourists that select maritime tourism remains unknown (Warner, **1999**). As a consequence, an approach to calculate the size of the world maritime tourism is attempted through its percentile participation in the total of the tourist activity of each region. This approach has weaknesses and limitations which at best can simply attribute an indicative estimation.

The world's maritime tourism market is estimated at €174 billion for 2005, that is, 10.5% of the total expenditure of tourism. This value is extremely significant. However, how much of it can be attribut to each "sub-sector" (specific activity) is a subject of much controversy among their representatives (World Marine Markets, **2005**). It is important to note that this total does not include the trip and the expenditures in coastal regions which if included would formulate a wider definition of the sector. In the attempt to obtain a precise evaluation of maritime tourism, this should include only activities suc as cruise vacations, and maritime leisure which is offered by yachting, while other maritime activities such as diving tourism, recreational fishing, windsurfing etc., are more problematic, given that at a international level there are no available comparative data.

Maritime Tourism in Greece

The maritime tourism in Greece began developing during the 1960s and especially in recent years it has evolved at a rapid pace according to all the quantitative data of its activities.

In the main maritime tourism products which were previously mentioned and constitute the international market (cruising and yachting), daily maritime excursions (that is daily cruises) is included as a separate product, which constitutes the activity of coastal tourist shipping. The major forms of the organized market of maritime tourism in Greece which will be analysed further on, are: a) cruising, b) yachting, c) coastal tourist shipping.

The cruises offered, as a whole, fall into the category of international cruises and specifically those of the Mediterranean and especially that of the east Mediterranean. The Greek ports are the main destination for a large number of cruise programmes, with complementary destinations the neighbouring ports of Italy, Turkey, Cyprus, or Egypt. In other programmes Greece is the complementary destination with calls of a few or even one port.

Yachting in Greece is very popular among both Greeks and foreigners and seems to have an upward course. The existing network of marinas and shelters of tourist vessels, though it needs further development and improvement, provides choices of maritime touring which can offer the visitor beyond enjoying the sea routes, the acquaintance with many regions of insular and continental Greece. Yachting in Greece is offered with manned leisure crafts (motor yachts, etc.) or sailing boats which are usually chartered without a crew.

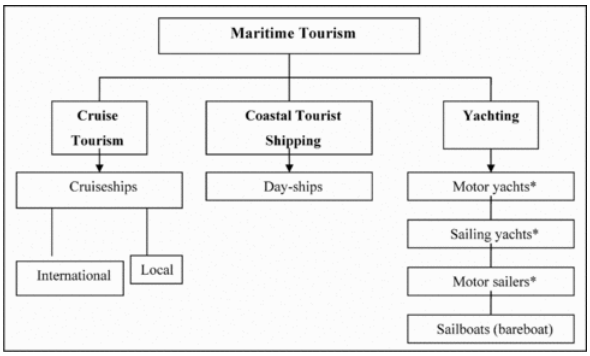
The day-boats offer daily cruises departing from continental or insular ports to coastal or insular destinations in the frame of daily sea excursions organized by tourist agents.

In the following figure the total of the maritime tourism market in Greece is depicted.

Methodology and Empirical Framework

A number of methods and models have been proposed to measure or estimate the economic benefits of visitors, and the vast majority begins with the estimation of the expenditures these visitors mal at an event site or in a defined geographic area (Vanhove, **2005**, Tyrrell and Johnston, **2001**, Vaughan *et al*., **2000**). Mihalic **(2002)** argues for the centrality of visitor expenditures in tourism economic-impact measurement quite cogently: tourism is an expenditure-driven economic activity. That is, the consumption of tourism is at the centre of the economic measurement of tourism and the foundatic of the economic impacts of tourism and, therefore, understanding tourism consumption is essential for understanding tourism's economic impacts.

Techniques such as multiplier analysis and input-output analysis are still very commonly used to make estimates of the economic impact of changes in tourism expenditure. These techniques are recognized to have serious limitations, and as a result, alternative techniques have been developed to address the problems (Dwyer *et al*., **2004**, p. 307-308). Although the input-output approach shov some weaknesses that often have been discussed lately by a group of people suggesting to apply computable general equilibrium (CGE) models instead, it nevertheless seems to be more appropriat in this case, as the TSA is developed as an extension to the input-output framework. Unlike this, measuring tourism by using a method that concentrates on capturing market feedbacks (such as the CGE approach) would move the exercise too far away from the original TSA intention of focusing on accounting points of view (Smeral, **2006**). The growth of real GDP per capita generated by tourism has been considered a measure of economic growth attributed to tourism (Ivanov and Webster, **2007** p. 379), but Tourism Satellite Account (TSA) is measuring the size of the tourism sector in an economy, or the "contribution" of tourism to the economy, in a manner which is consistent with the National System of Statistical Accounts (Dwyer *et al*., **2004**) and it has been proposed to provide consistent and comprehensive measurements across nations and through time (Frechtling, **1999**).



[Enlarge Image]

Figure 1. **Division of maritime tourism according to the Greek market.**
***Manned. Only sailboats are chartered without crew (bareboat).**

Source: Diakomihalis, **2006a**, p. 32.

The creation of a TSA has gained acceptance by the Organisation for Economic Co-operation and Development (OECD) and others as a way of "separating out" tourism related activity and enabling i analysis, whilst both remaining consistent with existing accounting frameworks (either national or regional) and retaining the ability to trace economy-wide economic effects on earnings, value added and investment (OECD, **2000**). The TSA provides a way to describe and measure the magnitude of tourism as a form of economic activity in a way that is consistent and comparable to conventional industries (Smith, **2000**, p. 530). The method assembles and categorizes information that concerns tourist activity, such as prices, quantities, quality, costs of work, number of workers (Sebbar, **2001**).

Globally there has been progress in the production of TSAs potentially providing a consistent accounting of tourism activity that can be set alongside national income accounts. The TSA provides a linkage between the supply and demand of tourism products, and utilizes similar definitions and approaches to those used to measure other economic activity (Jones and Munday, **2007**, p. 1).

The TSA aims at the concentration and production of tourism statistics, and the need for research, in upgraded and evolved form. The method, after modifications and improvements became an ideal tool for the estimation of (Lagos and Diakomihalis, **2005**):

- tourist consumption per product, per tourism category and total tourist consumption
- tourist production accounts
- tourist goods and services supply
- capital structure of tourism
- tourist employment

The distinctiveness of maritime tourism, as it functions in greece and internationally, requires the adaptation of the TSA tables, to include in them all the products that are offered in the tourist package or individually, as well as the sectors of economy that produce "other goods and services" that maritime tourism consumers purchase, before, at the duration or after the completion of the activities. Th adaptation assuredly cannot deviate from the OECD's definitions, concepts and methods that constitute the theoretical background of the TSA.

The TSA will allow maritime tourism to be measured on a comparable basis with other standard industries, thereby endowing it with the credibility it currently lacks. It assembles the following advantages compared to other methods:

a) it completely satisfies the aim of research for the measurement of maritime tourism and the determination of total income and the added value,
b) it was based on the System of National Accounts 1993 (SNA 93), and on the European System of Accounts 1995 (ESA 95), as well as on the definitions and interpretations of tourism statistics from the World Tourism Organisation (WTO) and United Nations (OECD, **2000**) and has been approved by the Council of Tourism of OECD 1999,
c) it can approach, after suitable adaptation, the economic reality of maritime tourism.

The OECD guidelines are flexible enough to enable countries to capture the specificity of their tourism industry at the national level. At the same time, they aim to provide a framework which is sufficiently robust for international comparisons of the countries' tourism sectors and for measuring the economic structure and weight of the tourism industry vis a vis other major sectors of the economy. They provide clear guidance regarding the key indicators (e.g., tourism value added, TVA) that need to be developed, as well as their mode of calculation.

The WTO has also developed a conceptual framework for a TSA that facilitates systematic measurement of the direct economic impact of tourism activities (Gerd, **2007**), which has been used by OECD countries in isolation or in combination with the OECD guidelines to implement their national TSAs (OECD, **2000**).

The TSA as suggested by WTO and EUROSTAT consists of ten tables, though only eight are recommended as suitable for development (as there remain unresolved issues with some Tables), and only six are considered "core" tables (Strathclyde University, **2004**).

The OECD manual on TSA recommends a maximum of 14 tables for the net basis approach. In the first 8 tables values are recorded on current prices and in the remaining 6 tables on constant prices (of previous period). On a gross basis approach the total tables recommended are 12. Since all the calculations are on a net basis approach and all the data used are on current prices, the Greek Tourism Satellite Account, based on the OECD (**2000**) and WTO manual of TSA directives and definitions, developed to satisfy the needs of evaluating the economic impacts of maritime tourism on th Greek economy consists of 8 tables, in the following framework:

Table 1: Production Account of Maritime Tourism, net basis (current prices).

Table 2: Tourism Supply and Demand, by Type of Commodity and Type of Visitor, net basis, at purchaser's prices (current prices).

Table 3: Supply by Maritime Tourism and Other Industries to Meet Tourism Demand by Different Types of Visitors, net basis (current prices).

Table 4: Tourism Value Added of Maritime Tourism and Other Industries, net basis (current prices).

Table 5: Tourism Employment of Maritime Tourism and Other Industries.

Table 6: Visitor Characteristics, net basis.

Table 7: Maritime Tourism Gross Capital Acquisition (current prices).

Table 8: Maritime Tourism Gross Capital Stock (current prices).

Taken together, these tables provide a comprehensive view of maritime tourism as a socioeconomic phenomenon. **Tables 1**, **2** and 3 provide much of the basic economic data on tourism.

Table 1. The degree of maritime tourism impacts to the major macroeconomic values of the Greek economy

	To tourism industry	To total tourism economy	To the total national economy
Tourism consumption	-	13,28%	1,15
Gross domestic product	8,73%	3,50%	0,48
Gross national income			0,35
Net national income			0,39
Balance of invisible resources			9,25
Balance of services			8.81
Balance of tourism			16.95
Balance of trade deficit			5.36
Public revenues (taxes)			0.41
Investments[1]		1.48%	0.20
Maritime tourism direct employment[2]	6.18%	2.43%	0.37
Total (including "all other industries") direct employment of maritime tourism		3.71%	0.57
Total employment (direct-indirect -imputed) of maritime tourism		9.43%	1.44

Source: Diakomihalis, **2006a**, p. 232.

[1]For the cruise industry only repairs that take place in the Greek Shipyards are included.

[2]Total employment in Greece (National Statistics Services of Greece, **2004**) is 4,312,000 jobs. Greek travel and tourism industry employment is estimated at 260,000 jobs and Greek travel and tourism economy employment is estimated at 660,000 jobs in 2004 (WTTC).

Table 2. The degree of impacts by maritime tourism activity

	Cruising	Yachting	Coastal tourist shipping	Total
Tourism consumption	60.68%	27.08%	12.24%	100.00%
Gross domestic product	58.46%	27.35%	14.19%	100.00%
National income	57.78%	27.35%	14.77%	100.00%
Balance of invisible resources	60.01%	28.15%	11.84%	100.00%
Public revenues (taxes)	46.13%	37.55%	16.32%	100.00%
Public revenues to total tourism consumption	9.49%	17.27%	16.61%	12.47%
Gross capital acquisition[1]	29.27%	58.65%	12.08%	100.00%
Gross capital stock	0.00%	79.29%	20.71%	100.00%
Employment	30.98%	50.57%	18.45%	100.00%
Trade and transport	52.54%	32.52%	14.94%	100.00%
Trade and transport margins to total tourism consumption	4.04%	5.59%	5.67%	4.66%
Consumption of characteristic maritime tourism commodities to total tourism consumption	34.72%	9.68%	3.75%	48.15%
Package tour consumption to total tourism consumption	39.24%	13.88%	5.03%	58.15%
All other commodities consumption to total tourism consumption	21.05%	13.02%	7.12%	41.20%
Number of tourists	812,100	234,219	4,000,000	5,046,319

1 For the cruise industry, only repairs that take place in Greek Shipyards are included.
Source: Diakomihalis, **2006a**, p. 234.

Table 1 is the starting point from the supply side: it identifies maritime tourism, its commodities outputs, its intermediate inputs and the resultant value added. **Table 2** provides the essential elements dof maritime tourism by commodity and type of visitor (since tourism is a demand-based concept), and only effects generated by the direct economic relationship between guest and producer are considered (Barber-Dueck and Kotsovos, **2003**; Kass and Okubo, **2000**; Meis, **1999**; Smith and Wilton, **1997**). Table 3 indicates which industry's output is acquired by which type of visitor. This table also introduces the "tourism ratio". The tourism ratio represents the share of production of a "manufactured" characteristic tourist industry provided to tourists. It takes the price of one unit, because the first column of Tables 3 and 4 indicates the supply consumed by the tourists who purchase maritime tourism products, which is the result of empiric research, and not the total supply of the economy (Diakomihalis, **2006a**, p. 195). Table 4 provides data not only on the TVA of maritime tourism but also for those industries which play a role in satisfying certain important elements of tourist demand. Table 5 provides data on an especially relevant dimension of tourism which is employment. Table 6 is related to **Table 2** in that it provides the link between the values of tourism expenditure with the volume and type of visitor. Table 7 provides information on capital acquisition and Table 8 on its stock by type of asset (OECD, **2000**).

The tables are interrelated so that information can (and does) feed from one to another, thus allowing the role of tourism in economic activity and employment to be readily identified. These tables are based largely on the Tourism Economic Accounts (TEA), but have been expanded and modified to address some of the issues which the TEA cannot adequately address.

Almost all of the data recorded by the public authorities do not contain economic values. Despite this, all the available official statistical elements contribute to the economic approach of the effects of maritime tourism activities within the national economy and for this reason have been appraised and included in the process of collating the TSA tables. Data collection of the three maritime tourism activities, through every official source, was required for the completion of the research. The insufficiency or the ambiguity of certain registered data led to the conduct of primary researches which wer focused on the enterprises of maritime tourism activities in Greece.

Such information is derived from the published financial statements of the sector and the enterprises.

The research concerns statistical and economic elements of the enterprises and the tourists who consume the products of the three maritime tourism activities.

The data obstacle became higher since cruising, yachting and coastal tourist shipping, are not immiscible activities but a combination of other sectors that's why the overall estimation and evaluation c

the sector demands data from different but related sources.

The majority of data concerning cruising came from the Association of Passenger Shipping Companies (APSC), ex-Union of Passenger Shipowners (UPS), the Piraeus Port Authority and the Hellenic Coast Guard. Also, much information gained from interviews with key players of the sector, such as with members of the Pan-Hellenic Seafarers Organization (PSO), as well as with executives of cruise, yachting and day-ships companies.

Data concerning yachting came from professional unions, Greek Professional Tourist Yachts Owners Union (GPTYOU), Professional Tourist Bareboat Yachts Owners Union (PTBYOU), Greek Liaison of Yachts' Brokers and Experts (GLYBE), Pan-Hellenic Professional Association of Skippers (PPAS), with the method of personal and telephone interviews, as well as with the completion of questionnaires where it was necessary.

Data regarding the Coastal Tourist Shipping derived through research in the financial statements of the sector's enterprises that compose the Pan-Hellenic Association of Tourist Day-ship Owners (PATDO).

Other data were collected by executives of public institutions and services such as the Mercantile Marine Ministry (MMM), the Marine Pension Fund, the Port Authorities, the Ships' Tax Department, the National Statistical Service of Greece (NSSG), the Greek Tourist Organization (GTO).

The principles and the rules of the TSA methodological framework, as they are determined by the OECD, have been applied during the process of completing the TSA Tables. At the same time, the methodological framework of National Accounts, which is harmonized with SNA 93 and the ESA 95, has been taken into consideration.

Final Results

The National Accounts Tables of Supply and Uses served as the basic building block for tables TSA 1, TSA 2 and TSA 3. These tables were examined to determine the industry and commodity detail that would best approximate that needed to complete the TSA.

Most transactions that are recorded in the "Table of uses" are valued at purchase prices. In order to estimate the transactions in basic prices the "Trade and transport margins", the "Deductible VAT" and the "Net taxes on the production: Other" have been deducted from purchase prices.

The calculation of VAT was undertaken in a manner that was appropriate to the specific activities that affect maritime tourism.

The "Trade and Transport Margins" concern only the goods and not the services. These are based on the factors of the "Supply and Uses Tables" (2004), of the Greek National Statistical Organization. The percentage of imports for each category of goods has been derived from the same tables.

The Intermediate Inputs (at purchase prices) for maritime tourism_by activity_have been estimated from the data gathered through primary research. For "all other industries", Intermediate Inputs have been evaluated based on the "Symmetrical Input Output Tables" (NSSG, **2000**).

Employment in maritime tourism is estimated from the empirical research. The estimation of employment for "all other industries" resulted from the combination of the "Employees by category of economic activity, 2005" and "Supply and uses of 2004" tables of the National Statistical Service of Greece (NSSG).

"Net Taxes on Production: Other"_including license fees and dues_have been estimated for maritime tourism, but not for "other industries" because: a) they are not noteworthy values, b) they do not concern all industries and c) they are stated incorporated with the Compensation of Employees and Gross Operating Surplus, in the Symmetrical Input Output Table of National Accounts (NSSG).

Imputed revenue concerns the estimated value of yacht chartering by their owners for the time they are using them for their own recreation.

The total tourist consumption (personal and businesses) in Greece has been estimated by the World Travel and Tourism Council (WTTC) to be €11.1 billion for 2004, that is, 8.7% of the country's total consumption. The tourist consumption attributed to the three maritime tourism activities is estimated to be €1,464.16 million, made up of personal consumption (by tourists) and €9.57 million from businesses consumption within the trade and transport sector taken from other industries. That sums up to €1,473.73 million. The proportion of maritime tourism consumption to total tourist consumption is 13.28%_overcoming the corresponding worldwide 10.5% ratio, accounting for 1.15% of the total consumption in Greece.

The value added at basic prices that results from TSA **Tables 1** & 4 will be converted to value added to purchase prices by adding VAT and net taxes on production. The result constitutes the impact of the activity on the GDP and it is estimated at €812.08 million. Since there are not records for any primary incomes generated from maritime tourism flowing in the country from abroad and only primary incomes paid abroad have been estimated (for the cruise sector), the impact on the National Product will be less than that of the GDP and it is estimated to €741,22 million. The impact on the National Income is appreciated with the deduction of taxes from the National Product, and it sums up to €597.94 million.

The impact of the activity on the Balance of Invisible Transactions, is the total consumption of Domestic and Imported Production, that is held by non-resident tourists, because this consumption is identified with the total income flowing into the country that is accounted for by the maritime tourism activity. Data on consumption of Greek tourists in the foreign on corresponding products do not exist. Therefore this size has not been taken into consideration, which in every case is considered negligible not affecting the impact of €1,362.15 million.

The estimation of Public Revenues includes all kinds of taxes collected by the state, which arise from the consumption of maritime tourism products, as well as from all other goods and services consumed by tourists during the cruise, the yachting tour or the daily cruise. Total Public Revenues generated by the three maritime tourism activities is €183.79 million.

The total production of the Trade and Transport sector concerns the proportion of the sector in the purchaser's prices of the goods consumed by the tourists. The largest share concerns the margins included in the prices of the goods, that is, €68.66 million, while a small percentage concerns the final supply of the sector to the enterprises, which constitutes their intermediate consumption that is accounted on secondary activities such as storage, packing etc., which is estimated at €9.56 million.

Gross Capital Acquisition and Gross Capital Stock of maritime tourism_by activity_have been estimated in the TSA 7 and TSA 8 tables. The total values estimated in these tables, €82,774.00 and €1,150,750.00 correspondingly, are the results of the activity's impacts on the referred values at national level. The capacity utilization, estimated in the TSA 8, is an important indicator of how an industry is using its capital base. The ratio of realized affreightments over the maximum possible number of affreightments, estimated at 55%, is reckoned to be a satisfactory index of capacity utilization concerning the yachting sector, while the complement of passengers may consider a more likely to real capacity utilization index for cruising, estimated at 70%, and coastal tourist shipping estimated at 40%.

The degree of maritime tourism impacts by activity to the major economic values of the Greek economy (for the year 2004) is demonstrated in the following **Table 1**, and the contribution by activity is shown in **Table 2**.

Conclusions

According to the research findings, the contribution of maritime tourism on the Greek national economy is judged remarkable, having also calculated for first time, income generated by passenger spending. The local income and the created employment constitute the more important effects of maritime tourism activities on the local economies.

Cruising constitutes the first among the three maritime tourism activities in Greece, concerning size, degree of organization and the time of their appearance in the tourist market.

Among the three major maritime tourism activities, the contribution of cruising to the major economic values (Tourist Consumption, Gross Domestic Product, Balance of Invisible Resources, Balance of Services, Balance of Tourism, Balance of Trade Deficit, National Income) is estimated between 55-60% of the total of maritime tourism. The percentage of Public Revenues created by cruising is below 50% of the total of maritime tourism contribution due to the VAT exemption from mixed and Mediterranean cruises. Even though cruise comes after yachting concerning employment in maritime tourism, it remains an activity that employs many Greek seafarers (about 80% of a total of 4,450), while it contributes to the reinforcement of the economies of the ports approached by the cruisers. Cruise ranks in the third position concerning investments, since only ship repairs in the Greek shipyards are accounted as Gross Capital Acquisition of the industry.

The contribution of cruising to Tourism Consumption, to Gross Domestic Product, to National Income, to Public Revenues and to Employment, on National Economy basis, is not of significant importance and fluctuates between 0.23% and 0.70%. Its impact though on the Balance Accounts of the National Economy is of considerable importance. Specifically, the contribution to Balance of Invisible Resources is 5.55%; to Balance of Services is 5.28%, to Balance of Tourism 10.17% and to Balance of Trade Deficit 3.21%.

Cruise contribution on the economies of islands and coastal destinations is particularly important. For many of ports of call cruising constitutes one of the main economic activities of their residents wit remarkable impact on all major values of the local economies.

Yachting constitutes the second among the three maritime tourism activities in Greece, not only concerning the sector's size and the time of appearance in the tourist market, but also in the degree of contribution to the majority of economic values. Concerning the number of tourists selecting the products it offers, yachting ranks by far in the third position since it is appreciated that approximately 234,000 tourists annually purchase yachting services.

Yachting contribution to the main values of the Greek economy is relatively small, it is, however, particularly important for the economies of islands and coastal destinations. It is considered significant economic activity for the regions where marinas and other tourist ports are located. The yachting activity contributes in all major values to the local economies of the regions that have developed this special interest tourism. The sector constitutes important source of exchange income, since 95% of affreightments is realized by non-resident tourists (Diakomihalis and Lagos, **2006**).

Coastal tourist shipping constitutes third place among the three maritime tourism activities in Greece, in respect of size, the degree of organization and the time of its appearance in the tourist market. Despite that, coastal tourist shipping surpasses considerably the other two activities, cruising and yachting, in the number of tourists selecting the products it offers, since it is appreciated that 4,000,0(tourists annually purchase a daily sea tour.

The contribution of the sector on the main values of the Greek national economy is considered small, but definitely of significant importance for the local economies, since it constitutes the major economic activity of their residents (Diakomihalis, **2006b**). The development of daily sea tours has contributed significantly to the lift of transport isolation of smaller islands and to their daily regular connection with larger islands or land ports_even only during the touristic period_since for a significant number of islanders travelling as tourists, the purpose of their travel is not leisure, but going to a neighbouring destination concerns meeting their daily needs (Diakomihalis and Lagos, **2007**).

The first attempt of the TSA implementation for the economic impact estimation of maritime tourism in Greece revealed solid results and contributed significantly to the evaluation of the "sector" on a comparable basis with tourism in total as well as with standard industries, thereby endowing it with the credibility it currently lacks.

The results of the estimation of maritime tourism economic impacts that indicate the magnitude and the value of the sector, concern certain periods of time. In order to have a complete and explicit picture of the economic consequences of the sector, the permanent assessment and continuous estimate of the economic impacts is required to make possible the determination of constant policy for the achievement of the objectives of the state and practitioners of maritime tourism.

The inappropriateness of existing desegregations for tourism policy reflects a more general point, highlighting the value of satellite accounts as an addendum to national accounts (Jones *et al*., **2003**; Heerschap *et al*., **2005**). Tourism Satellite Account may contribute substantially to the evaluation of tourism in total and particularly to the measurement of its diachronic development and the way and degree that it is involved in the economy. Countries should ensure that the initial rigour and degree of detail in their TSAs match their anticipated technical and human capacity to develop and use the tools for planning and analysis (Poonyth *et al*., **2002**).

Greece is a maritime nation and an unfailing integrated research concerning all maritime activities would be very important. Even more the orientation of policy makers should not be a static economic assessment but much further a complete and diachronic implication of the Tourism Satellite Account, which could be used as a tool for maritime policy. In this way the contribution of each potential policy would be obvious and it would help the political dilemma.

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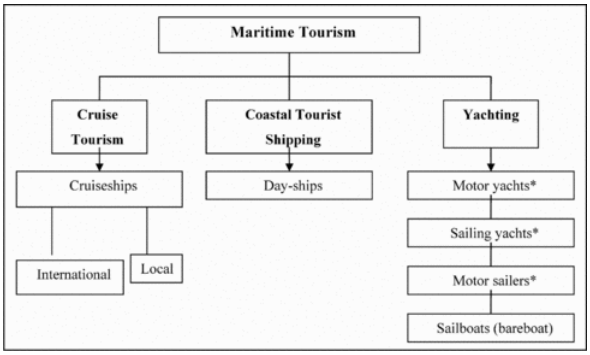

[Enlarge Image]

Figure 1. **Division of maritime tourism according to the Greek market.**
***Manned. Only sailboats are chartered without crew (bareboat).**

Source: Diakomihalis, **2006a**, p. 32.

List of Tables

Table 1. The degree of maritime tourism impacts to the major macroeconomic values of the Greek economy

	To tourism industry	To total tourism economy	To the total national economy
Tourism consumption	-	13,28%	1,15%
Gross domestic product	8,73%	3,50%	0,48%
Gross national income			0,35%
Net national income			0,39%
Balance of invisible resources			9,25%
Balance of services			8.81%
Balance of tourism			16.95%
Balance of trade deficit			5.36%
Public revenues (taxes)			0.41%
Investments[1]		1.48%	0.20%
Maritime tourism direct employment[2]	6.18%	2.43%	0.37%
Total (including "all other industries") direct employment of maritime tourism		3.71%	0.57%
Total employment (direct-indirect -imputed) of maritime tourism		9.43%	1.44%

Source: Diakomihalis, **2006a**, p. 232.

[1]For the cruise industry only repairs that take place in the Greek Shipyards are included.

[2]Total employment in Greece (National Statistics Services of Greece, **2004**) is 4,312,000 jobs. Greek travel and tourism industry employment is estimated at 260,000 jobs and Greek travel and tourism economy employment is estimated at 660,000 jobs in 2004 (WTTC).

Table 2. The degree of impacts by maritime tourism activity

	Cruising	Yachting	Coastal tourist shipping	Total
Tourism consumption	60.68%	27.08%	12.24%	100.00%
Gross domestic product	58.46%	27.35%	14.19%	100.00%
National income	57.78%	27.35%	14.77%	100.00%
Balance of invisible resources	60.01%	28.15%	11.84%	100.00%
Public revenues (taxes)	46.13%	37.55%	16.32%	100.00%
Public revenues to total tourism consumption	9.49%	17.27%	16.61%	12.47%
Gross capital acquisition[1]	29.27%	58.65%	12.08%	100.00%
Gross capital stock	0.00%	79.29%	20.71%	100.00%
Employment	30.98%	50.57%	18.45%	100.00%
Trade and transport	52.54%	32.52%	14.94%	100.00%
Trade and transport margins to total tourism consumption	4.04%	5.59%	5.67%	4.66%

Consumption of characteristic maritime tourism commodities to total tourism consumption	34.72%	9.68%	3.75%	48.15%
Package tour consumption to total tourism consumption	39.24%	13.88%	5.03%	58.15%
All other commodities consumption to total tourism consumption	21.05%	13.02%	7.12%	41.20%
Number of tourists	812,100	234,219	4,000,000	5,046,319

1 For the cruise industry, only repairs that take place in Greek Shipyards are included.
Source: Diakomihalis, **2006a**, p. 234.