Maritime Tourism Tax Revenues in Greece:
A New Framework for Collection

Mihail N. Diakomihalis[1]

Abstract

This research is designed to help government and tourism policy-makers evaluate the efficiency and consequences of the Greek taxation system on maritime tourism. The tax revenues generated by the taxes and dues imposed by the state are measured using the Tourism Satellite Account (TSA). Tax evasion is considered to be the major cause of the high deficit of the Greek economy. The effectiveness of the taxation system can be evaluated by comparing the total value of taxes actually collected by each activity of maritime tourism and by category given the initial budget, also revealing possible tax evasion or laxity in collecting taxes.

1.   Introduction

Tourism has become more significant to the economies of many countries, but since tourism spans many economic sectors, its impact cannot be measured in the national accounts (Smeral, 2006). For a country to effectively develop its tourism, it needs a national tourism policy to identify strategies for marketing, ecotourism, cultural tourism, international and regional cooperation, land and infrastructure, employment and human resources, community participation, investment and financing, legislation and fair market competition, and institutional infrastructure (Sharma and Olsen, 2005). Tourism legislation constitutes an important factor in the development and growth of the industry (McGehee and Meng, 2006). An important relationship exists between government and tourism, since successful tourism requires cooperation among government, private, and non-profit agencies (Hall, 1994).

A tourism development policy must allow stakeholders to estimate its economic impact on the nation (Dwyer and Forsyth, 1996, p. 37). The more essential tourism is to the national economy, the more systematic and continuous the estimate should be.

---

[1] Technological Educational Institute of Epirus, School of Management and Economics Department of Accounting, Psathaki, 48100, Preveza, Greece (diakomnisyros@gmail.com)

109

Greece is going through its greatest economic crisis since World War II, which mainly concerns the extremely high deficits. The expenditure of the Greek government is not higher than that of the European Union (EU) average, but "revenue is much below because of tax evasion, which is the main source of Greece's deficits" (Meghir et al., 2010, p.9). Tax evasion is deeply engrained in the Greek economy, not because it is in the genes of Greek taxpayers, but because not enough incentives are in place to discourage it (Meghir et al., 2010, pp. 9-12).

Fighting tax evasion should be one of the first priorities for the state, not only to increase tax revenues and become able to provide high quality of public services, but also to deter the illicit competition between the enterprises that are reliable and those that evade tax payments.

The purpose of this paper is to introduce a practical and scientific process to estimate the budgeted public revenues expected to flow into the Greek economy. The flow includes all types of taxes collected by the state resulting from the consumption of maritime tourism products, as well as from all other goods and services consumed by tourists during maritime tourism activities.

2.   Literature review

Studies focusing on tourism's economic impact, including public revenues, have targeted regions such as Miami (Mescon, Vozikis, 1985), the Maldives (Sathiendrakumar and Tisdell, 1989), the Seychelles (Archer and Fletcher, 1996), Brazil (Wagner, 1997), Canada (Smith, 2000), Spain (Blake, 2000), South Africa (Poonyth et al., 2002), Turkey (Tosun, 2002), Indonesia (Sugiyarto et al., 2003), Scotland (McNicoll, 2003), the UK, (DCMS, 2004), Tanzania (Sharma and Olsen, 2005), Mauritius (Gooroochurn and Sinclair, 2005), and the Balearic Islands (Aguiló et al., 2005).

Additionally, several studies have focused on the economic impact of maritime tourism, including taxes. "The Economic Impact of Tourism in Seychelles" by Archer and Fletcher (1996) addresses the effect on income and on government-owned income from taxes. Dwyer and Forsyth (1996) in their study, "Economic Impacts of Cruise Tourism in Australia," include in the cruise expenditure table income tax, customs duty and departure tax, all of which affect the national and regional economy.

In Greece, as in most countries, since a portion of tourism spending accrues to the government as taxation, it should not be considered as direct economic injection to the economy (Bryan et al., 2006).

The importance of tourism for the Greek economy is reflected in Table 1.

The Greek Tourism Ministry, recognizing the economic value of maritime tourism, established the Maritime Tourism Committee in 2010. The Committee's mission is to investigate the necessary legislative regulation required to make Greek maritime tourism as well-managed as comparable activities in neighbouring and competitive countries, such as Turkey and Croatia. The competition for the Greek ports of leisure crafts comes from the countries of the Northwestern Mediterranean (France, Italy, Spain), as well as from those of the Northeastern Mediterranean (Turkey, Croatia) (Diakomihalis, 2007, p. 446).

110

Table 1: Tourism key factors for Greece

	2010	2020 trend
The contribution of travel and tourism to gross domestic product (GDP)	15.5% EUR 33.9bn	17.3% EUR 60.7bn
Real GDP Growth for the travel and tourism economy	0.9%	3.5% per annum
The contribution of the travel and tourism economy to employment	18.8% 785,000 jobs	21% 916,000 jobs
Export earnings from international visitors (exports)	26.2% EUR 10.3bn	22.4% EUR 24.6bn
Travel and tourism investments	14.2% EUR 5.6bn	14.6% EUR 9.6bn

Source of Data: World Travel and Tourism Council, 2010

Maritime tourism, as the total tourism industry, is a seasonal activity, and therefore, it often complements other activities (education, agriculture) leading to greater para-economy in tourism compared to other industries (Buhalis, 2001, p. 443).

The contribution of tourism to the Greek economy is substantially greater than the official figures present, since the official figures ignore the "para-economy" (black or parallel economy), estimated to reach 50% of the official GDP (Buhalis, 2001, p. 443). Table 2 depicts Greece's initiatives, considered the key drivers for resuming growth, among which tax evasion is one of the tasks in progress.

Table 2: Long-term growth drivers

In Progress	*In Progress*	*Being planed*
Fiscal Consolidation	**Structural Reforms**	**Business Reforms**
Deficit Public Administration Tax Evasion	Labor, State Assets Business Environment Regulation	Legislation Liberalization Privatizations PPP (Purchasing Power Parity) FDI (Foreign Direct Investment)

Source: Ministry of Finance, Eurobank EFG Equities Research, Sept. 2010, p. 9.

The Greek market in maritime tourism includes cruising, yachting and coastal tourism shipping. Turkey and Croatia are the main competitors of Greece, not only in yachting, but also in the cruise market. Since the *mixed cruises* of 3-7 days duration with departure points at Greek ports usually consist of both domestic and foreign ports in their programs, most of the time the ports of Cyprus, Turkey, Italy, Egypt, Israel, and Croatia are included.

111

Interventions on the imposition or modification or reduction of taxes and dues, are the result of the estimated as well as the anticipated income. Additionally, they are the outcome of an attempt to harmonise taxes with the corresponding ones of the neighbouring-competitive countries, or the pressure of the sector's professionals for tax alleviation.

Most of the maritime tourism enterprises, especially those active in yachting and coastal tourism shipping are small and family owned firms. Tax evasion by family owned and very small firms is hard to detect, forcing government to maintain a high tax rate, and to collect the taxes from larger firms, which cannot evade them as easily (Meghir et al., 2010, pp. 11-12).

Tax revenues due are estimated by the government on the basis of the income received by the public tax collecting offices. Tax effects on a specific economic sector cannot be determined precisely, whether in total or by category, since taxes are levied by various institutions and collected by different authorities. However, a methodological tool such as the Tourism Satellite Account (TSA) can help reveal information on expected taxes. Without a complete and systematic estimate of an activity's economic contribution, governments cannot have a full picture in order to evaluate an effective legislative and economic frame of the specific activity. The incentive of governments and the objectives of legislative and developmental intervention are the inflow of foreign exchange and growth of employment. This would occur through the increase of the Greek Maritime Tourism's share from the total product of the (Eastern) Mediterranean market.

An effective policy requires the estimation of the value added for each tourist activity, including maritime tourism. This estimation includes the output that the activities add to the economy and includes employees' compensation, the operating surplus, the gross profit of enterprises, the public revenues derived from *taxes on products* and the *taxes on production: other*.

The ability to measure public income that should be collected from maritime tourism, both in total and by category (taxes, dues etc.), is an important tool for the Greek government, although it has not yet implemented a Tourism Satellite Account. Recognising the need for such a tool, a consortium of three private companies took on the development of a Greek Tourism Satellite Account and delivered the supporting software in 2008. The project has not been set in function up to present.

The methodology and the outcomes of the research are important for the government, especially since Greece now faces enormous public finance problems.

Deficits of the Greek economy would have definitely been much smaller if the government had been able to collect all budget taxes, and Greece would not be incurring a serious debt problem today. The greatest cost of tax evasion is the deprival of income which prevents the government from providing a welfare state (Meghir et al., 2010, p. 11).

Research can contribute in order to detect tax evasion in specific activities as well as in the tax categories in which it takes place. The major contribution of this paper to policy-makers, government and businesses is the introduction of a modified TSA table for maritime tourism.

112

3. Methodology

Techniques such as input–output analysis commonly used to estimate the economic impact of changes in tourism expenditures have serious limitations. As a result, alternative techniques have been developed (Dwyer et al., 2004). Although based on similar types of data and assumptions, computable general equilibrium (CGE) models are designed to relax some of the constraints inherent in input-output models, especially price variation constraints. With these types of models, the "supply and use" tables compiled for a given year represent a balance among the different variables of the system. Unlike input-output models, whose form, operation, data requirements and interpretation are widely known and agreed upon, CGE models vary in the data required, assumptions and structure. Many are proprietary and not intended for public evaluation or use, making them unsuitable for international comparisons. (UNS, WTO, CEC, OECD, 2008).

Globally there has been progress in the production of Tourism Satellite Accounts (TSAs) for consistent accounting of tourism activity that can be set alongside national income accounts (Jones and Munday, 2007). The TSA thus becomes a mainstream functional component of tourism development and policy analysis (Sharma and Olsen, 2005).

The "*Tourism Satellite Account: Recommended Methodological Framework 2008"* version is basically an update of the former "*TSA:RFM 2000*" that takes into account the new 2008 *International Recommendations on Tourism Statistics (UNS, WTO, CEC, OECD*, 2008, p. 8). The updated TSA tables are formally similar to those of the TSA: RMF 2000, but their content has been clarified, and the presentation has been improved (UNS, WTO, CEC, OECD, 2008, p. 43). The main differences between the 2000 TSA: RMF and the updated *TSA:RFM 2008* document basically refer to the clarification of the concepts of tourism expenditure and tourism consumption, that of the treatment of goods acquired by visitors, etc *(UNS, WTO, CEC, OECD*, 2008, p. 9).

TSA:RFM 2008 presents "taxes less subsidies on products nationally produced and imported" for each tourism industry, but government tax revenue is not broken out (UNS, WTO, CEC, OECD, 2008, pp. 41-44 and pp. 61-62).

The TSA tables of the TSA: RMF 2000 assess the yield of tax revenues from tourism. Therefore, public revenues can be measured and policymakers can judge the level of taxes dependent upon tourism activity in order to identify other features like the "balance of tourism trade" (DCMS, 2004, p. 16).

TSAs bring together the supply and demand of tourism commodities. The Organization for Economic Cooperation and Development's guidelines are flexible enough to let countries capture the specifics of their tourism industry at the national level. At the same time, they provide a framework which is sufficiently robust for international comparisons of a country's tourism sectors (UNS, WTO, CEC, OECD, 2008; OECD, 2000). The two main categories of public revenues derived from tourism are "tourism net taxes on products" and "tourism taxes less subsidies on production: other". These categories do not appear in the final TSA methodological framework of 2008, but they can be measured

113

in the TSA 2000 tables. Therefore, the required calculations derive from the TSA tables of the TSA framework of 2000.

Taxes less subsidies on products are taxes on accommodation services, excise taxes, and retail or wholesale taxes paid by visitors who are not part of the output of the tourism industries generated by tourism demand. They are calculated by apportioning to each commodity the proportionate tax rate(s).

Taxes less subsidies on production: other are taxes on land and payroll taxes paid by an industry as a result of its production. They are calculated by decomposition of an industry's value added at basic prices, into compensation of employees, gross operating surplus and *taxes less subsidies on production: other*. Total taxes less subsidies on production resulting from tourism demand can be measured by adding the two above mentioned tax categories.

The derivation of tourism value added (TVA) is central to the development of a TSA. Value added tax (VAT) is shown in separate columns of the TSA tables. Subtracting TVA from total economy output at purchase prices results in net taxes on products of the accounts reported at basic values. The typical tourism industries, along with all other commodities having a tourism element, are shown in the TSA tables. Consequently, public revenues by category, that is, the VAT of characteristic industries, VAT of all other commodities purchased on board and in ports of call, net taxes on production (by type of visitor) can be shown in the TSA tables. The tax rates for various industries are available in the tax legislation in effect.

The following formula indicates how the basic information assembled to construct a TSA can be used to derive TVA (OECD, 2000, p. 97).

The TVA assessment results from the equation:

$$TVA = TCE + TGOS + GMI + TTPO \qquad (1)$$

where:
TCE = Tourism Compensation of Employees.
TGOS = Tourism Gross Operating Surplus.
GMI = Gross Mixed Income
TTPO = Tourism Taxes Less Subsidies on Production: Other.
Therefore, having evaluated the TVA from the TSA tables, and the two components, TCE and TGOS, will allow the **Tourism Taxes less subsidies on Production: Other** estimation.

The requirement for supply and use to be equal requires converting supply's basic values to purchase prices in which consumption is valued, showing tourism net taxes on production.

Total Supply (Domestic Production + Imported Production) at basic prices + Net Taxes on Production + VAT + Trade & Transport Margins. = Total Supply at Purchaser's Prices = Total Consumption at Purchaser's Prices

Total Production at Purchase Prices – Net Taxes on Production – VAT- Trade & Transport Margins = Total Supply at Basic Prices

114

Total Consumption at basic values * Domestic Production percentage =
Supply of Domestic Products at basic values = Domestic Consumption at basic prices

$$\left\{ \left[\frac{TP_{pp} - NTP}{(1+VAT)} \right] / (1+TTM) \right\} * DP = SDP_{bv} \tag{2}$$

TP_{pp} = Total Production at Purchaser's Prices
NTP = Net Taxes on Production
VAT = VAT rate
TTM = Trade and Transport Margins
DP = Domestic Production Percentage
SDP_{bv} = Supply of Domestic Products at basic prices

Using a similar calculation, the imported supply consumed by maritime tourists can be estimated as follows:

$$\left\{ \left[\frac{SI_{pp} - NTP}{(1+VAT)} \right] / (1+TTM) \right\} * IP = SI_{bv} \tag{3}$$

SI_{pp} = Supply Imported at purchaser's prices
IP = Imported Production percentage
SI_{bv} = Supply Imported at basic prices

Through the following calculations VAT and Taxes on Production are derived:

$$TS_{pp} = SDP_{bv} + SI_{bv} + NTP_{(SDP + SI)} + VAT_{(SDP + SI)} + TTM_{(SDP + SI)} \tag{4}$$

TS_{pp} = Total Supply at basic prices
SDP_{bv} = Supply of Domestic Products at basic prices
SI_{bv} = Supply of Imported Products at basic prices

$$NTP_{(SDP + SI)} = \textbf{Net Taxes on Production}$$

(of Domestic and Imported Supply) = TS_{pp} * NTP_{rates} (5)

$$VAT_{(SDP + SI)} = \textbf{Value Added Tax (of Domestic and Imported Supply)}$$

$$= [SDP_{bv} + SI_{bv} + NTP_{(SDP + SI)} + TTM_{(SDP + SI)}] * VAT_{rate} \tag{6}$$

3.1   Empirical framework and data collection

The literature review includes empirical studies and academic papers on the maritime industry in general and the economic impacts in particular. The research falls into the following two main categories:

115

(i) papers investigating the contribution of the sector to the national and local economy (Mescon & Vozikis, 1985; Dwyer & Forsyth, 1996, 1998; Dwyer et al., 2004; Vina & Ford, 1998; BREA, 2001, 2002, 2003, 2004, 2005; Frechtling, 2006 and 2009; Diakomihalis and Lagos, 2008).

(ii) papers focusing on Greek maritime tourism (Lekakou et al., 2005; Diakomihalis, 2007, Diakomihalis and Lagos, 2008).

The TSA is predominantly an accounting system, taking variables from a country's national economic accounts. Except for estimates of visitor expenditure and consumption derived from survey, and the proportion of value added attributable to those variables, the TSA uses accounting identities rather than assumed equations to develop its estimates. (Frechtling and Libreros, 2000; Frechtling, 2006; Frechtling, 2009). Unlike some modeling methods, the TSA definitions, standards and methodologies are detailed exhaustively and are strictly consistent with the concepts, definitions and classifications approved for basic tourism statistics. (UN and WTO, 2008; UNS, WTO, CEC, OECD, 2008). Therefore, data concerning visitor expenditure and consumption were collected from various sources, since there is not a single authority or database for the maritime tourism sector. All available pertinent data have been collected and included in the process of completing the TSA tables. The inadequacy or ambiguity of certain registered data led us to conduct primary research in published financial statements on the kind and amount of taxes included in enterprise income. Since cruising, yachting and coastal tourist shipping are not discrete activities, but a combination of other sectors, the overall estimation and evaluation of the sector demanded data from different but related governmental sources and professional associations.

Major statistical data for all three branches of maritime tourism concerning the number of tourists who purchased a cruise or a yacht tour, or the number of tourists who purchased a daily sea tour, the number of calls of cruise ships in Greek ports, the total yacht charters, the number of tourist day-ships etc., were collected from the Mercantile Marine Ministry (MMM), the Marine Pension Fund, the Port Authorities, the ships, the National Statistical Service of Greece (NSSG), and the Greek Tourist Organization (GTO).

The majority of data concerning cruising came from the Union of Passenger Ships Owners (U.P.S.O), the Piraeus Port Authority and the Hellenic Coast Guard. We obtained information also from interviews with key players in the sector, such as members of P.S.F (Pan-Hellenic Seamen's Federation), the Ships Public Revenue Office, and the Ministry of Mercantile Marine as well as with executives of cruise, yachting and day ship companies. The empirical research for cruising on taxes accrued was based on statistical and financial data from the sector as well as on passenger use of seven cruise companies: Louis Hellenic Cruises, Golden Star Cruises, Festival Cruises, Royal Olympic Cruises, Dolphin Hellas Shipping, Lindos Maritime, and Helios Shipping.

Foreign cruise companies are exempted from VAT in Greece, according to the 89/67 law. Greek companies also are VAT-exempted in all of their transactions, provided that they approach a harbour out of the Schengen Treaty (1156/97 Act). All cruise programs include the call to at least one port out of the Schengen Treaty in order to ensure VAT tax exemption

116

for the total of the cruise. All the goods and services offered on cruise ships are also VAT-exempted. The other goods and services in the tourist package, including transfers, travel agents, organizer margins, hotels, and health spas are VAT-imposed.

The cruise itself constitutes an indivisible package which includes accommodations, full board, recreation on board and, of course, the voyage to various ports of call. It may include services such as sightseeing tours and be part of a tourist package with transfers (by air or land) from (and to) the place of residence to (and from) the port of embarkation, hotel accommodations before and after embarkation, etc. Air transfers pertain to foreign clients and are part of a package offered by tourist agents from the client's country of origin.

Data on yachting come from professional associations through personal and telephone interviews: the Hellenic Professional Yacht Owners Association (HPYOA), the Greek Professional Yacht Owners Bareboat Association (GPYOBA), the Hellenic Yacht Brokers Association (HYBA), and the Panhellenic Professional Association of Skippers (PPAS). We also used questionnaires.

The primary research concerns the statistical and economic elements of yachting enterprises and the tourists who use their products, including:

• A sample of 47.3 percent of the total of 3,600 professional sailing boats (bareboat and manned yachts).
• Interviews with 11 owners of yachting companies, eight marine managers, 18 executives of chartering bases and 31 skippers.

To estimate and structure yachting tourist use in the destination ports, we used questionnaires and interviews covering a sample of 376 tourists.

Freighting and imputed freighting of yachting are VAT-imposed, in the low factor (8 percent until 2005), discounted by 50 percent. The other products that compose the tourist package of private marine tours are charged according to the VAT factors in effect (9% or 19%). The components of a private tourist package, apart from the chartering of the vessel, include transfers (usually by land), hotel accommodations and the vessel. Tourist packages which include air transfers and hotel accommodations are offered to clients from Europe and the US. The chartering of a sailing boat may or may not include crew. Extra services in a tourist package may consist of transfers by bus, limousine or taxi, hotel accommodations before and after the charter, purchase or rental of a mobile phone, scheduled sightseeing tours, and car rental.

Data for coastal tourist shipping come from the financial statements of the sector's enterprises that are part of the Pan-Hellenic Union of Tourist Day-Ships (PUTDS). We sampled 161 shipping companies out of a total of 600 (26.7%) to calculate time of employment, number of passengers, and income and expenses per category. We collected additional information on the economic elements of the daily ships, including the prices of sea excursions, additional expenditure of passengers for consumption on the boats, and the cost of fuel and maintenance. To estimate and structure coastal tourist shipping tourist consumption in the destination ports, we used questionnaires and interviews covering a sample of 1.457 tourists.

117

The daily sea cruises offered by coastal tourist shipping bear a low VAT factor, while all other products in the tourist package of the daily cruise belong some to low and some to high VAT factors. All other goods and services purchased by consumers onboard or at the ports of destinations are subject to VAT factors in effect. VAT is based on supply in basic prices plus net taxes on products (domestic and imported) plus net taxes on production: other, plus retail, wholesale and transport margins. Coastal tourist shipping packages come in the form of daily sea excursions (cruises) organised and sold by entrepreneurs (ship owners). They are separate from maritime transfers, including board, land transfers, sight-seeing tours, guided tours, picnics, beach parties, etc. The transfer activity of the day vessels constitutes part of a tourist package organised and sold by tourist agents.

4. Results

Tables 3, 4 and 5 show the supply by tourism and other industries to meet tourism demand by different types of visitors on a net basis and at current prices for each activity.

Table 3: Cruising: Supply by tourism and other industries to meet tourism demand by different types of visitors: net basis* current prices *(in million €)*

	1	2	3	4	5	6
Characteristic commodities	Total domestic Supply	Tourism consumption				Total tourism demand
		Non-residents	Residents			(2+3+4+5)
Output (at basic prices)			House-holds	Business	Govern-ment	
Cruising:	489.38	450.23	39.15	0.00	0.00	489.38
Transfer (Transport: Bus. Taxi Air, Water)	0.18	0.17	0.01	0.00	0.00	0.18
Travel Agents/Organizers Margins	5.24	4.82	0.42	0.00	0.00	5.24
Hotels - Health spas	1.26	1.16	0.10	0.00	0.00	1.26
Total Output of Characteristic Maritime Tourism Commodities	**496.06**	**456.38**	**39.69**	**0.00**	**0.00**	**496.06**
Other	-	-	-	-	-	-
Total Output at Basic Prices	**735.50**	**672.04**	**58.44**	**5.02**	**0.00**	**735.50**
VAT of characteristic industries (package tour)	10.02	9.22	0.80	0.00	0.00	10.02
VAT (of all other *commodities* purchased on board	0.09	0.08	0.01	0.00	0.00	0.09
VAT (of all other *commodities* purchased in ports of call	20.81	19.15	1.66	0.00	0.00	20.81
TOTAL VAT	**30.92**	**28.45**	**2.47**	**0.00**	**0.00**	**30.92**
Net Taxes on Production	**49.71**	**45.74**	**3.98**	**0.00**	**0.00**	**49.71**
Total	**816.14**	**746.23**	**64.89**	**5.02**	**0.00**	**816.14**
Net Taxes on Production: Other	**4.15**					

*Net Treatment of Package tours

118

Table 4: Yachting: Supply by characteristic tourism and other industries to meet tourism demand by different types of visitors: net basis* Current prices *(in million €)*

	1	2	3	4	5	6
	Total domestic Supply	Tourism consumption				Total tourism demand
Output (at basic Prices)		Non-residents	Residents			(2+3+4+5)
Characteristic commodities			House-holds	Business	Govern-ment	
Yachting Chartering Revenues:	136.07	131.99	4.08	0.00	0.00	136.07
Yachting Imputed Revenues:	1.12		1.12	0.00	0.00	1.12
Transfer (Transport: Bus, Taxi)	7.59	7.36	0.23	0.00	0.00	7.59
Travel Agents/Organizers Margins	15.36	14.90	0.46	0.00	0.00	15.36
Hotels - Health spas	2.96	2.87	0.09	0.00	0.00	2.96
Single purpose consumer durables	1.32	1.28	0.04	0.00	0.00	1.32
Total Output of Characteristic Marine Tourism Commodities	**164.41**	**158.40**	**6.01**	**0.00**	**0.00**	**164.41**
Other	-	-	-	-	-	-
Total Output at Basic Prices	**302.48**	**289.31**	**10.06**	**3.11**	**0.00**	**302.48**
VAT (of characteristic industries)*	13.51	13.06	0.45	0.00	0.00	13.51
VAT (all other industries)	19.72	19.13	0.59	0.00	0.00	19.72
TOTAL VAT	**33.23**	**32.19**	**1.04**	**0.00**	**0.00**	**33.23**
Net Taxes on Production	**24.73**	**23.99**	**0.74**	**0.00**	**0.00**	**24.73**
Total	360.44	345.49	11.84	3.11	0.00	360.44
Net Taxes on Production: Other	**11.05**					

* Net Treatment of Package tours

Table 5: Coastal Tourist Shipping: Supply by characteristic tourism and other industries to meet tourism demand by different types of visitors: net basis* Current prices *(in million €)*

	1	2	3	4	5	6
	Total domestic Supply	Tourism consumption				Total tour-ism demand
Output (at basic Pric es)		Non-residents	Residents			(2+3+4+5)
Characteristic commodities			House-holds	Business	Govern-ment	
Coastal Tourist Shipping	49.21	44.29	4.92	0.00	0.00	49.21
Meals (Picnic, Beach-party)	3.55	3.20	0.36	0.00	0.00	3.55
Transfer (Transport: Bus. Taxi)	4.81	4.33	0.48	0.00	0.00	4.81
Travel Agents/ Organizers Margins	7.08	6.37	0.71	0.00	0.00	7.08
Food and Beverages	2.38	2.14	0.24	0.00	0.00	2.38
Retail, Wholesale and Transport Margins	0.96	0.75	0.08	0.12	0.00	0.96
Total Output of Characteristic Maritime Tourism Commodities	**67.99**	**61.08**	**6.79**	**0.12**	**0.00**	**67.99**
Other	-	-	-	-	-	-
Total Output at Basic Prices	**143.74**	**128.07**	**14.23**	**1.44**	**0.00**	**143.74**
VAT (of characteristic industries)	6.18	5.57	0.62	0.00	0.00	6.18
VAT (of all other industries)	10.25	9.22	1.02	0.00	0.00	10.25
TOTAL VAT	**16.43**	**14.79**	**1.64**	**0.00**	**0.00**	**16.43**
Net Taxes on Production	**12.92**	**11.62**	**1.29**	**0.00**	**0.00**	**12.92**
Total	**173.09**	**154.49**	**17.17**	**1.44**		**173.09**
Net Taxes on Production: Other	**0.65**					

* Net Treatment of Package tours

The results from the elaboration of the above TSA Tables are presented in the following Table 6.

Table 6: Public Revenues (VAT, net taxes on production and net taxes on production: other) *(in million €)*

Characteristic Maritime Tourism Industry	VAT			Net Taxes on Production of Maritime Industries			Net Taxes on Production of all Other Industries			Net Taxes on Production: Other	Total Public Revenues by Industry
	Non Residents	House-holds	Total	Non Residents	House-holds	Total	Non Residents	House-holds	Total		
Cruising:	28.45	2.47	30.92	20.48	1.78	22.26	25.26	2.19	27.45	4.15	**84.79**
Yachting	32.19	1.04	33.23	0.00	0.00	0.00	23.99	0.74	24.73	11.05	**69.01**
Coastal Tourist Shipping	14.79	1.64	16.43	2.16	0.24	2.40	9.46	1.06	10.52	0.65	**30.00**
TOTAL	**75.43**	**5.15**	**80.58**	**22.64**	**2.02**	**24.66**	**58.71**	**3.99**	**62.70**	**15.85**	**183.79**

The segmentation of taxes derived from each activity of maritime tourism is as follows:

1) **Cruises** generate the highest percentage, **46.12 percent** of *total tax income* of the maritime tourism industry. In the categories of tax income origin per activity, cruises rank second (30.92 million **€)** in *VAT* due to the exemption from VAT in the price of cruising. In revenues derived from *net taxes on production of maritime industries*, cruises provide the overwhelming percentage, at 90.27 percent, mainly because of the high Port Authority dues and port taxes. The attendance *net taxes on production of all other industries*, of the cruise sector is 43.80 percent (27.45 million **€).** Cruises are in second place with 26.18 percent (4.15 million **€)** in the *net taxes on production: other* category of income.

2) **Yachting** generates **37.55 percen**t of *total tax income*. It ranks first in *VAT* with 33.23 million **€.** Yachting presents zero attendance in *net taxes on production of maritime industries*. It ranks second in *net taxes on production of all other industries* with 39.44 percent (24.73 million **€).** Yachting provides a considerably higher percentage, 69.72 percent, in the *net taxes on production: other* category of income because of the ongoing dues for mooring and sheltering yachts in marinas or other harbours (11.05 million **€).**

121

3) **Coastal tourist shipping** ranks in third place with **16.32 percent** of total tax income. The total VAT generated by Coastal tourist shipping is roughly half the contribution of the two other activities (16.43 million **€).** 9.37 percent of *net taxes on production of maritime industries* is attributed to coastal tourist shipping. Coastal tourist shipping is in third place in *net taxes on production of all other industries* with attendance at 16.80 percent. Coastal tourist shipping is in last place with 4.1 percent in the *net taxes on production: other* category of income with 0.65 million **€.**

The contribution of maritime tourism tax revenues is presented in Table 7.

Table 7: Public Revenues (taxes)

ALL MARITIME TOURISM ACTIVITIES	CONTRIBUTION TO THE TOTAL NATIONAL ECONOMY			0,41%
MARITIME TOURISM ACTIVITIES				
TAXES SEGMENTATION OF EACH ACTIVITY	Cruising	Yachting	Coastal Tourist Shipping	Total
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%

Public revenues from each maritime tourism activity and by tax category are presented in Table 8.

122

Table 8: Net Taxes and VAT contribution by activity

Cruising	Net taxes on production (products)	VAT	Net taxes on production (products) +VAT	Net taxes on production (products)	VAT	Net taxes on production (products) +VAT
	/ Domestic output			/ Total supply		
Cruising	4,55%	0,00%	4,55%	4,35%	0,00%	4,35%
Package tour	5,05%	2,02%	7,07%	4,33%	1,73%	6,06%
All other commodities purchased by visitors	10,31%	8,73%	19,04%	7,83%	6,63%	14,46%
Total sector economy	6,76%	4,20%	10,96%	5,56%	3,46%	9,02%

Yachting	Net taxes on production (products)	VAT	Net taxes on production (products) +VAT	Net taxes on production (products)	VAT	Net taxes on production (products) +VAT
	/ Domestic output			/ Total supply		
Yachting	0,00%	4,00%	4,00%	0,00%	3,84%	3,84%
Package tour	2,21%	8,22%	10,43%	1,78%	6,60%	8,38%
All other commodities purchased by visitors	15,27%	14,28%	29,56%	10,81%	10,11%	20,93%
Total sector economy	8,18%	10,99%	19,16%	6,19%	8,32%	14,50%

Coastal Tourist Shipping	Net taxes on production (products)	VAT	Net taxes on production (products) +VAT	Net taxes on production (products)	VAT	Net taxes on production (products) +VAT
	/ Domestic output			/ Total supply		
Coastal Tourist Shipping	4,88%	7,50%	12,38%	4,34%	6,67%	11,01%
Package tour	6,69%	9,09%	15,78%	5,74%	7,79%	13,53%
All other commodities purchased by visitors	11,05%	13,53%	24,58%	8,26%	10,12%	18,38%
Total sector economy	8,99%	11,43%	20,42%	7,15%	9,10%	16,25%

123

6.   Conclusion

This research aims to provide government authorities with an easy and reliable calculation of public income resulting from maritime tourism in Greece. The taxes and the dues per category and per activity that should have been collected are displayed in the tables. The research outcome constitutes a useful tool for tourism and taxation policy involving VAT and other taxes for the maritime tourism sector. Comparing the results of taxes owed with actual collected tax revenues reveals possible tax evasion or laxity in collecting taxes.

The figures of maritime tourism tax revenues, shown in Table 7, confirm the prevailing opinion that "taxing tourism is relatively less politically conflicting since tourists are not taxpayers (Gooroochurn, 2004, p. 2) and they are rarely voters in the destination country they visit" (Gooroochurn and Sinclair, 2005, p. 479).

Policy-makers would benefit from an in-depth analysis of public revenues from each maritime activity and by tax category, as shown in Table 8. The findings presented in Table 8 indicate the proportion of net taxes on products and VAT on domestic and total output analytically for each activity.

Although the quantitative contribution of the three activities to public income puts cruises in first place and coastal tourist shipping in last place, a fact attributed to the gap in the activities' gross income, the comparison on the basis of domestic production and of total supply puts coastal tourist shipping in first place and cruises in last.

The ability to estimate taxes accrued from an economic sector also affects the power of enterprises to negotiate, which can call upon the government's contribution to the arrangement of their problems, such as infrastructure works via the levies attributed to the government. Additionally, in times of recession, in order to become more competitive, the government can pursue a reduction of cost via the reduction of taxes.

Gooroochurn and Sinclair (2005, p. 479), in their research on tourism taxation, claim that "taxes can be both inefficient and inequitable, if not set at optimal welfare maximizing levels, and may lead to retaliation by other countries". Therefore, the precise estimation of public income from tax imposition provides a useful tool for the state budget.

The research findings and their implications for the Greek economy form solid ground for the exercise of policy via legislative regulations and fiscal intervention. Maritime tourism is a global market with supply and demand aspects. Effective fiscal policy can increase competitiveness, public income, employment and investments as well as other benefits.

124

References

Aguiló, E., Riera, A., Rosselló, J., 2005, 'The short-term price effect of a tourist tax through a dynamic demand model: the case of the Balearic islands', *Tourism Management*, 26, pp. 359 - 365.

Archer, B., Fletcher, J., 1996, 'The Economic Impact of Tourism in Seychelles', *Annals of Tourism Research* 23, pp. 32-47.

Blake, A., 2000, 'The economic effects of tourism in Spain. Tourism and Travel Research', *Institute Discussion Paper 2000/2; available from http://www.nottingham.ac.uk/ttri/series.html.*

BREA, 2002, 2003, 2004, 2005, 2006, *The Contribution of the North American Cruise Industry to the U.S Economy,* International Council of Cruise Lines, Arlington, VA.

Bryan, J., Jones, C., Munday, M., 2006, 'The contribution of tourism to the UK economy: Satellite account perspectives', *The Service Industries Journal* 26, 5, pp. 493-511.

Buhalis D., 2001, 'Tourism in Greece: Strategic Analysis and Challenges', *Current Issues in Tourism*, 4,5, pp. 440-480.

DCMS (Department of Culture Media and Sport), 2004, *First Steps Tourism Satellite Accounts Project*, Report by Cardiff Business School, Colum Drive, Cardiff, CF1 3EU.

Diakomihalis M., Lagos D., 2008, 'Economic impacts' estimation of yachting in Greece via the Tourism Satellite Account', *Tourism Economics,* 14,4, pp. 871-887.

Diakomihalis M., 2007, 'Greek Maritime Tourism: Evolution, Structures and Prospects', In Athanasios A Pallis (Ed) *Maritime Transport: The Greek Paradigm, Research in Transportation Economics,* London, Elsevier, 21, pp. 423-460.

Dwyer, L., Forsyth, P., Spurr, R., 2004, 'Evaluating tourism's economic effects: new and old approaches', *Tourism Management,* 25, 3, pp. 307-317.

Dwyer, L., and Forsyth P., 1998, 'Economic Significance of Tourism', *Annals of Tourism Research*, 25, pp. 393-415.

Dwyer, L., and Forsyth P., 1996, 'Economic Impacts of Cruise Tourism in Australia', *Journal of Tourism Studies* 7, 2, pp. 36-43.

Frechtling, D., and Libreros, M., 2000, *General Guidelines for Developing the Tourism Satellite Account (TSA): Measuring Total Tourism Demand.* Madrid: World Tourism Organization.

Frechtling, D., 2006, 'An assessment of visitor expenditure methods and models', *Journal of Travel Research,* 45, 1, pp. 26-35.

Frechtling D., 2009, 'Clarifying and Extending the TSA Brand', *Fifth UNWTO International Conference on Tourism Statistics, TOURISM: AN ENGINE FOR EMPLOYMENT CREATION,* Bali, Indonesia.

Forsyth, P., and Dwyer, L., 1995, *Impacts of cruise shipping on the national economy and regional economies in Australia.* Prepared for Commonwealth Department of Tourism.

Gooroochurn N., 2004, 'Tourist taxation: A Theoretical and Empirical Investigation', *ECOMOD International Conference on Input-Output and General Equilibrium: Data, Modelling and Policy Analysis,* Brussels, September 2004.

Gooroochurn, N., Sinclair, T., 2005, 'Economics of tourist taxation. Evidence from Mauritius', *Annals of Tourism Research*, 32, 2, pp. 478-498.

Hall, C. M., 1994, *Tourism and Politics: Policy, Power and Place* Chichester, UK: Wiley.

Jones, C., and Munday, M., 2007, 'Exploring the environmental consequences of tourism: a satellite account approach', *Journal of Travel Research,* 46, pp. 164-172.

Libreros M., Massieu A., Meis S., 2006, 'Progress in Tourism Satellite Account. Implementation and Development', *Journal of Travel Research,* 45, 1, pp. 83-91.

McGehee N. G., Meng F., 2006, 'The Politics of Perception: Legislative Images of the Tourism Industry in Virginia and North Carolina', *Journal of Travel Research*; 44, pp. 368-378.

McNicoll, I., 2003, *Towards a Tourism Satellite Account for Scotland*, University of Strathclyde.

Meghir C., Vayanos D., Vettas N., 2010, *The economic crisis in Greece: A time of reform and opportunity,* http://greekeconomistsforreform.com/wp-content/uploads/Reform.pdf (assessed: 26/8/2011).

Mescon, T. S., Vozikis, G. S., 1985, 'The economic impact of tourism at the port of Miami', *Annals of Tourism Research,* 12, 4, pp. 515-528

Ministry of Finance, Eurobank EFG Equities Research, Sept. 2010.

Nilsson P. A, 2007, 'Cruise Tourism and the New Tourist: The Need for a New Typology?', In, Lück, M. (ed.) Nautical Tourism: Concepts and Issues. Chapter 7, Cognizant Communication Corp., Elmsford, NY.

OECD, 2000, *Measuring the Role of Tourism in OECD Economies: The OECD Manual on Tourism Satellite Accounts and Employment*. Paris: OECD.

Poonyth, D., Barnes, J., Suich, H., Monamati, M., 2002, 'Satellite and resource accounting as tools for tourism planning in southern Africa', *Development Southern Africa,* 19, 1, pp. 123-141.

Sathiendrakumar, R., Tisdell, C., 1989, 'Tourism and the economic development of the Maldives', *Annals of Tourism Research,* 16, 2, pp. 254-269.

Sharma A., Olsen M.D., 2005, 'Tourism Satellite Accounts: Implementation for Tanzania', *Annals of Tourism Research,* 32, 2, pp. 367-385.

Sebbar, H., 2001, 'The Tourism Satellite Account: A new approach or extension to Input-Output Tables', WTO, Enzo Paci Papers, 1, pp. 139-151.

Smeral, E., 2006, 'Tourism Satellite Accounts: A Critical Assessment', *Journal of Travel Research,* 45, pp.92-98.

Smith, S.L.J., 2000, 'Measurement of tourism's impacts', *Annals of Tourism Research*, 27, 2, pp. 530-531.

Sugiyarto, G., Blake, A., Sinclair, T., 2003, 'Tourism and Globalization in Indonesia: Economic Impact', *Annals of Tourism Research,* 30, 3, pp. 683-701.

Tosun, C., 2002, 'Host perceptions of impacts. A Comparative Tourism Study', *Annals of Tourism Research,* 29, 1, pp. 231-253.

United Nations Statistics Division, World Tourism Organization, Commission of the European Communities and Organization for Economic Co-operation and Development,

126

2008, *Tourism Satellite Account: Recommended Methodological Framework 2008*, New York: United Nations.

United Nations and World Tourism Organization, 2008, International Recommendations for Tourism Statistics (IRTS 2008), (New York, Madrid, November 2007).

Vina, L., Ford, J., 1998, 'Economic Impact of Proposed Cruise ship Business', *Annals of Tourism Research*, 25, pp. 205-221.

Wagner, J. E., 1997, 'Estimating the Economic Impacts of Tourism', *Annals of Tourism Research* 24, pp. 592-608.

Wanhill, S. R. C, 1980, *Econometric Model of Wales*. University of Wales Press, Oxford, United Kingdom.

World Travel and Tourism Council, 2010, *Travel and Tourism Economic Impact – Greece*, London, UK.

127