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Growth Potential of Tourism Taxation in Maldives

In this paper, we examine the tourism sector in Maldives, focusing on tax revenue generation and long-run growth potential. We present a sectoral outlook for tourism and use time-series econometric techniques to estimate long-run tax base elasticities. We focus specifically on international tourist arrivals and international tourism receipts as two alternative tax bases in the tourism sector. We use data from the World Bank's World Development Indicators and the World Tourism Organization for the period 1995-2009. Our findings suggest a strong long-run growth potential for revenue generation from tourism in Maldives, where the revenue growth potential is stronger in the case of the international tourism receipts.

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JEL Classification: H20, H30, L83

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1. Introduction

Small island economies have been suffering from serious fiscal problems in recent times. Maldives had one of the worst fiscal outlooks among these economies. The Maldives is a sovereign nation of 1,192 islands¹ located in the Indian Ocean to the south west of India. The population is 309,575² who inhabit on 194 islands.³ The country's nominal GDP for 2009 is estimated at USD1,473mn.⁴ The World Bank classifies the Maldives as a lower middle-income country (LMC, i.e. a country that has a GNI per capita of USD976-3,855) according to the 2008 figures.⁵ The national currency is the Rufiyaa which is pegged to the US\$. The current fixed exchange rate of US\$1=Rf12.80 has been in place since the last devaluation from Rf 11.77 in the middle of 2001.

In this paper, we examine the tourism sector in Maldives, focusing on the long-run growth potential from this revenue source. Our goal is to determine the long-run growth potential in the country by estimating long-run tax base elasticities. We start with a sectoral outlook for tourism and then use time-series econometric techniques to get elasticity estimates that can be compared to other tax bases and elasticity estimates from other related studies. We focus specifically on international tourist arrivals and international tourism receipts as two alternative tax bases in the tourism sector. We use data from the World Bank's World Development Indicators and the World Tourism

¹ Department of National Planning (2010), Statistical Yearbook 2009, available at <http://planning.gov.mv/yearbook2009/>, visited 27 March 2010.

² Department of National Planning (2010), Statistical Yearbook 2009, available at <http://planning.gov.mv/yearbook2009/>, visited 27 March 2010.

³ Department of National Planning (2010), Statistical Yearbook 2009, available at <http://planning.gov.mv/yearbook2009/>, visited 27 March 2010.

⁴ Maldives Monetary Authority, Monthly Statistics Vol. 11 No. 3, March 2010, available at <http://www.mma.mv/Monthly%20Statistics/mar10.pdf>, visited 26 March 27, 2010.

⁵ World Bank, World Development Report 2010, available at <http://siteresources.worldbank.org/INTWDR2010/Resources/5287678-1226014527953/WDR10-Full-Text.pdf>, p. 377, visited 26 March 27, 2010.

Organization for the period 1995-2009. Our findings suggest a strong long-run growth potential for revenue generation from tourism in Maldives. We also find a stronger growth potential in the international tourism receipts compared to international tourist arrivals.

The paper is structured as follows. The next section provides an outlook for the tourism sector and describes tax and non-tax revenue instruments. This is followed by an empirical analysis of the long-run revenue growth potential. The last section summarizes results and provide our concluding remarks.

2. Tourism Sector Outlook and Revenues

There is a wide-ranging literature on the economic impact of tourism particularly for small island economies. Reece (2010) discusses in detail the multidimensional nature of the tourism impacts and defines the economic impact of tourism as “changes in regional employment, incomes, tax payments, and other measures of economic activity, along with social and environmental impacts that result from a region’s tourism development.” Many other studies discuss and show evidence of the revenue impact of tourism in Maldives and other small island economies (Sathiendrakumar and Tisdell, 1989; McKee and Tisdell, 1990; Kakazu, 1994; Gooroochurn and Sinclair, 2005; Croes, 2006).⁶

Maldives is indeed a premium tourist destination and its economy is heavily dependent on tourism. Figure 1 shows that the contribution of tourism to GDP in 2008 was 27% (the second highest contributor to the GDP was transport/communication with 19% followed by 17% from government administration). Tourism also accounts for 16%,

⁶ See also McKee and Tisdell (1990), Kakazu (1994) and Read (2004) for some of the challenges that could limit revenue capabilities in small island economies.

the third highest, of the total employment.⁷ The highest number of people is employed in the wholesale and retail trade (19%) followed by manufacturing (18%).

Since the advent of tourism in Maldives in early 1972,⁸ the country has increasingly relied on this industry. In 1984 the contribution of tourism to GDP was 29.4%.⁹ Tourism contribution to GDP peaked in 1996 at 35%. However, the corresponding figure for 2005 plummeted to 22.7%¹⁰ (lowest ever) following the Asian tsunami on 26 December 2004. The figure is estimated to be 24.6% in 2009. Total bed capacity increased from 3,915 in 1981¹¹ to 23,464 in 2008.

As shown in Figure 2, tourist arrivals in 2004 peaked at 616,716 but slumped to 395,320 in 2005 following the tsunami in December 2004. It bounced back in 2006 with 601,923 and continued to increase to 683,012 in 2008 before falling to 655,852 in 2009 during the height of the financial crisis. The tourist arrival numbers are also shown in Table 1 with other tourism indicators. Average bed capacity utilization rate remained just under 75% over the last decade. After peaking at 83.9% in 2004, utilization rate dropped to 64.5% in 2005 following the tsunami. While it recovered after the tsunami starting in 2006, the capacity utilization rate dropped again to 70.4% following the financial crisis. We see a similar trend in tourist bednights as well. It is also noteworthy that the average days of stay also fell noticeably over the last decade. It is quite clear from these indicators

⁷ Department of National Planning (of Maldives), Economic Survey 2007, available at

⁸ For historic developments in tourism in the Maldives see Ahmed Niyaz, *Tourism in the Maldives: 25 years of sustainable development*, Maldives 1998.

⁹ Ministry of Planning and National Development (2005), *25 Years of Statistics*, available at <http://www.planning.gov.mv/publications/25yearsstats/default.htm>, visited 27 March 2010.

¹⁰ Department of National Planning (2010), *Statistical Yearbook 2009*, available at <http://planning.gov.mv/yearbook2009/>, visited 27 March 2010.

¹¹ Ministry of Planning and National Development (2005), *25 Years of Statistics*, available at http://www.planning.gov.mv/publications/25yearsstats/25_yrs_stats/9_Tourism/9.4.htm, visited 27 March 2010.

that tourism in Maldives suffered significantly from external events such as the tsunami and the world financial problems.

In the absence of a direct tax (such as an income tax) in the Maldives, there has been heavy reliance on indirect taxes and non-tax revenue for government finance. Import duty, tourism tax and tourism resort lease rent are the largest sources of revenue to the government.

The share of receipts from tourism to the total government revenue in 1994 was 28.6%. The figure peaked at 34.2% in 2002. The lowest ever share of tourism receipts to government revenue was in 2009 with an estimated 16.2%. This large drop follows the slump in the economy following the global financial crisis.

Revenue to government from tourism comes mainly in the form of lease rent and tourism tax payments. In 2007 tourism tax collection amounted to Rf 547.3mn. This increased to Rf 588.7mn (17.4% of the total tax revenue) and Rf 496.2mn (20.1% of the total tax revenue) in 2008 and 2009 respectively. Despite an absolute drop in tourism revenue in 2009 due to a significant drop in tourist arrivals in 2009 amid the global financial crisis, tourism tax showed an increase as a percentage of the total tax revenue. This is due to a substantial reduction in import duty revenue which has by far the largest share of total tax collections (72.5% in 2008 and 56.6% in 2009).¹²

Of non-tax revenue, tourism resort lease rent is by far the biggest contributor. In 2007 resort lease rent contributed Rf 1668.7mn. The figures for 2008 and 2009 were Rf 1513.6mn and Rf 1051.2mn respectively.

¹² Import duty is also the largest tax contributor to government finance in absolute terms (Rf 2086.5mn in 2007; Rf 2459.9mn in 2008); and Rf 1816.7mn in 2009).

The government has a history of deficit budgets. Following the Boxing Day tsunami in December 2004, budget deficit shot up from Rf 157.9mn in 2004 to Rf 1044.7mn (just under 11% of the GDP) in 2005. Since then the deficit has deteriorated to Rf 4923.6mn (just over 26% of the GDP) in 2009.

While the government has taken measures to curb its expenditure drastically, the country also remains at a very vulnerable position on the revenue side. Recognizing the need to address the fiscal problems immediately for long term stability the government is working on legislation to diversify the government's revenue base. Among the measures are a tourism goods and services tax (TGST) in the short term, an increase in the tourism tax in the short term, a business profits tax (BPT) in the short term, and a goods and services tax (GST) in the medium term.

3. Empirical Analysis

We use data from the World Bank's World Development Indicators database. We use GDP data for Maldives as well as for few other relevant tourist sending regions, namely European Union, Organization for Economic Cooperation and Development (OECD), High income countries, and North America. Data on international tourism receipts and international tourist arrivals come from World Tourism Organization, Yearbook of Tourism Statistics.¹³ That data also appears in the World Bank's World Development Indicators database, which was the source we used in our empirical

¹³ As reported in the WDI database, "international inbound tourists (overnight visitors) are the number of tourists who travel to a country other than that in which they usually reside, and outside their usual environment, for a period not exceeding 12 months and whose main purpose in visiting is other than an activity remunerated from within the country visited. When data on number of tourists are not available, the number of visitors, which includes tourists, same-day visitors, cruise passengers, and crew members, is shown instead." "International tourism receipts are expenditures by international inbound visitors, including payments to national carriers for international transport. These receipts include any other prepayment made for goods or services received in the destination country. They also may include receipts from same-day visitors, except when these are important enough to justify separate classification. For some countries they do not include receipts for passenger transport items. Data are in current U.S. dollars."

analysis. All variables, except international tourist arrivals, are used in (or converted to) constant U.S. dollars with 2000 as the base year. Summary statistics for these variables are shown in Table 2. Natural logs of these variables are used in the regressions.

We use the following basic regression specification to estimate the long-run tax base elasticity:¹⁴

$$T_t = \beta_0 + \beta_1 GDP_t + \varepsilon_t \quad (1)$$

where T_t is the natural log of tourism receipts (or tourist arrivals) at time t , GDP_t is the natural log of the Gross Domestic Product at time t . The coefficient of GDP_t provides the tax base elasticity that shows the long-run response of the tax base to the change in overall economic activity.

Augmented Dickey-Fuller and Phillips-Perron unit root tests of the variables in Equation (1) reveal that while tourism receipts and tourist arrivals are stationary, the GDP variable is nonstationary. However, we find a cointegrating relationship among the variables in equation (1). We also use heteroskedasticity and autocorrelation consistent (HAC) standard errors and estimate our regression equation using the Newey-West (1987) standard errors.

We estimate the response of international tourist arrivals, which was the tax base prior to recent legislation, as well as international tourism receipts (the tax base of the new TGST) to changes in economic activity. Regression results are shown in Table 3. Numbers in the table are the coefficient estimates of β_1 in equation 1 which are also the long-run elasticity estimates. We start with the response of these tax bases to GDP of Maldives. We see that both long-run elasticity estimates are less than 1 with a higher

¹⁴ This approach is similar to other long-run tax base elasticity estimations in the public finance literature. See Fox and Campbell, 1984; Dye and McGuire, 1991; Sobel and Holcombe, 1996; Bruce *et al.*, 2006; Nichols and Tosun, 2008.

estimate under the tourism receipts tax base. These may not be very accurate, however, since both tourist arrivals and tourism receipts respond more to income and economic activity in other tourist sending countries, which are also in relatively higher income regions. We see that the elasticity estimates are significantly higher when we look at the response to GDP of those regions and countries. While most elasticity estimates are greater than 2, the estimates are lowest in the case of North American countries and highest in the case of European Union countries. This certainly makes intuitive sense since European Union is the largest tourist sending country group for Maldives tourism. We also see in Table 3 that the long-run elasticity estimates are consistently higher for the international tourism receipts in all regressions

4. Summary and Conclusion

In this paper, we examined the response of the tourism sector in Maldives to changes in economic activity in Maldives and tourist sending high income regions. We focused specifically on international tourist arrivals and international tourism receipts as two alternative tax bases in the tourism sector. Our findings show that the long-run elasticity estimates for these two tax bases are quite high (greater than 1) particularly for the responses to the GDP of high income tourist sending regions. Such high responsiveness is an indication of a strong long-run growth potential for revenue generation from tourism in Maldives. We also find that this growth potential is particularly strong for the international tourism receipts compared to international tourist arrivals.

We would like to conclude by noting that we focused solely on the long-run tax base elasticity in this paper, refraining from any volatility issues. Volatility (or

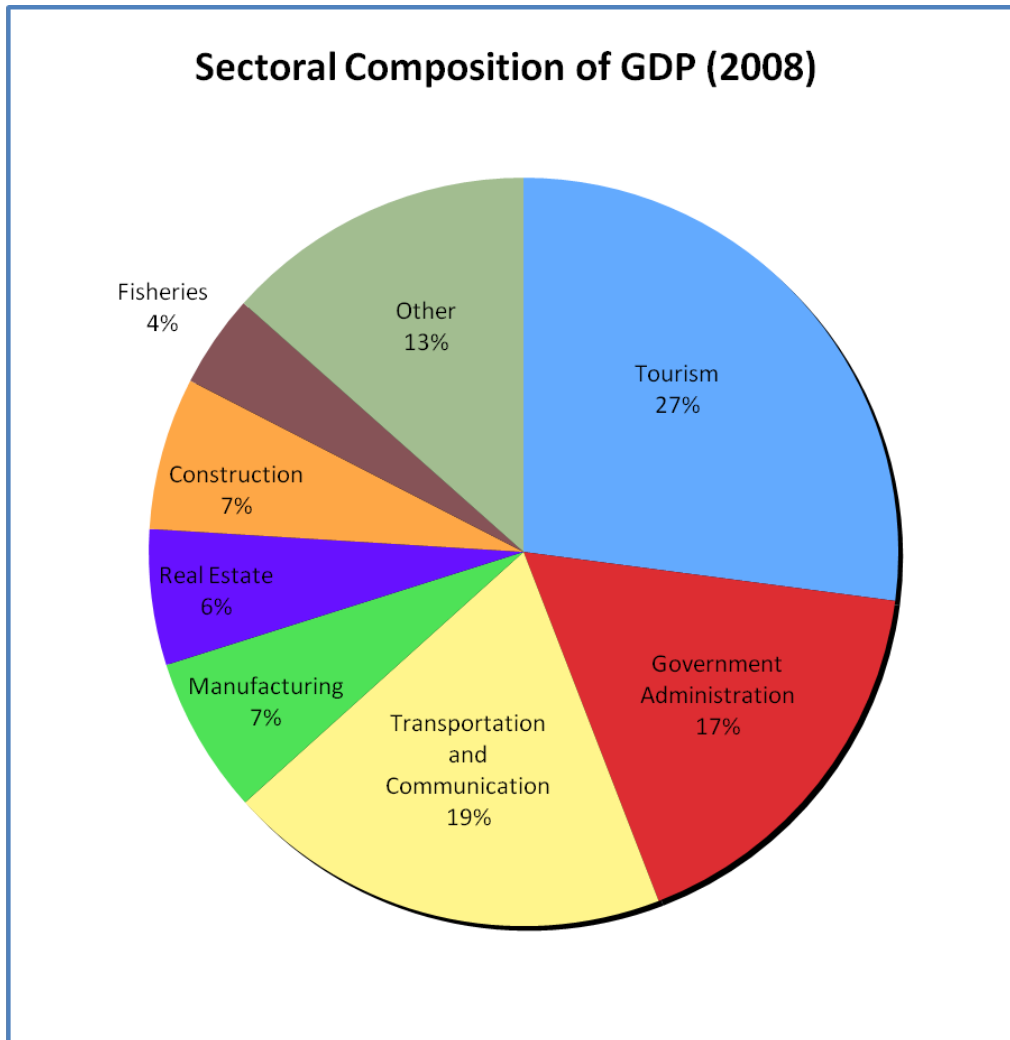
variability) in tourism taxation requires estimation of short-run tax base elasticity. While revenue volatility has been addressed recently for some island economies (e.g. Purfield, 2005), that has not been done for Maldives specifically, which is a good area for future research.

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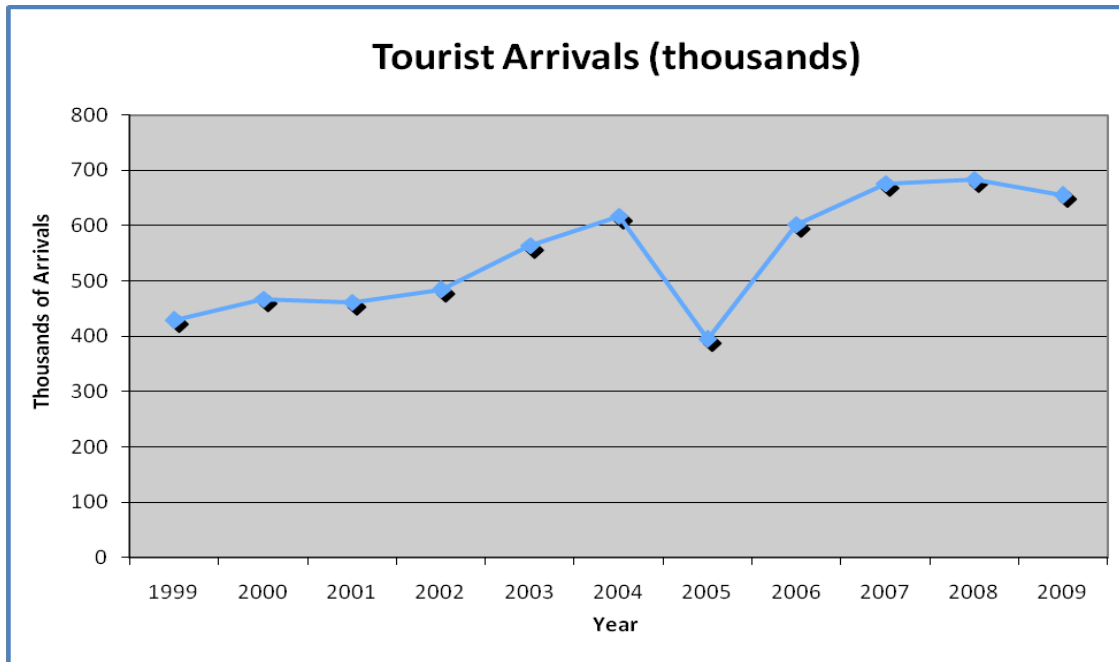
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Figure 1. Sectoral Composition of GDP in 2008



Source: Maldives Monetary Authority, Monthly Statistics November 2010.

Figure 2. Total Tourist Arrivals (thousands of arrivals)



Source: Maldives Monetary Authority, Monthly Statistics November 2010.

Table 1. Annual Tourism Indicators in Maldives

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Tourist Arrivals (thousands)	467.2	461	484.7	563.6	616.7	395.3	601.9	675.9	683	655.9
Tourist Bednights (thousands)	3,937	3,933	4,067	4,705	5,111	3,300	4,822	5,293	5,447	5,152
Tourist Bednights (% change)	5.9	-0.1	3.4	15.7	8.6	-35.4	46.1	9.8	2.9	-5.4
Bed Capacity (resorts/hotels)	15,812	16,478	16,131	16,692	16,621	13,946	16,175	17,511	19,081	20,098
Bednight Capacity (thousands)	5,788	6,015	5,887	6,092	6,083	5,093	5,904	6,392	6,964	7,337
Capacity Utilization Rate (%)	68.2	65.6	69	77.2	83.9	64.5	81.7	82.9	78.3	70.4
Average Stay (days)	8.4	8.6	8.4	8.4	8.3	8.3	8	7.9	8	7.9

Source: Maldives Monetary Authority, Monthly Statistics November 2010.

Table 2: Summary Statistics for the Variables Used in the Regression Analysis

	Mean	Standard Deviation
International Tourist Arrivals	485,429	123,213
International Tourism Receipts (constant 2000 US\$)	\$3.57e+08	\$9.28e+07
GDP of Maldives (constant 2000 US\$)	\$7.21e+08	\$2.04e+08
GDP of European Union Countries (constant 2000 US\$)	\$8.72e+12	8.49e+11
GDP of OECD Countries (constant 2000 US\$)	\$2.69e+13	\$8.49e+11
GDP of High Income Countries (constant 2000 US\$)	\$2.72e+13	\$2.84e+12
GDP of North American Countries (constant 2000 US\$)	1.09e+13	\$1.33e+12

Source: Computed by the authors.

Table 3. Estimated Long Run Tourism Tax Base Elasticities and Coefficients of Variation

Relative to:	International Tourism Receipts in constant 2000 US\$ (long run elasticity)	International Tourist Arrivals (long run elasticity)
GDP of Maldives in constant 2000 US\$	0.82	0.77
GDP of European Union countries in constant 2000 US\$	2.33	2.16
GDP of OECD countries in constant 2000 US\$	2.2	2.03
GDP of High Income countries in constant 2000 US\$	2.17	2
GDP of North American countries in constant 2000 US\$	1.78	1.66

Source: Estimated by the authors.