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Assessing Indirect Tax Reform in a Tourism-Dependent Developing Country

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Summary. — The paper investigates the effects of reform of the current structure of indirect taxes in Mauritius, a relatively tourism-dependent economy. It uses a computable general equilibrium model to explore the relative efficiency of changing sales tax rates on tourism and nontourism related sectors, and allowing for equity considerations. The efficiency of tax reforms are also distinguished for cases where tourist arrivals are exogenously set, and where they endogenously adjust to changes in relative prices. The simulation results show that the tourism sectors are currently undertaxed. Additionally, taxing tourism sectors is found to be the most socially efficient means of raising tax revenue.

Key words — Africa, Mauritius, tourism, CGE, tax reform

1. INTRODUCTION

In recent years, there have been a number of sources of pressure for tax reform in developing countries, including domestically and from multilateral agencies. There are several studies which consider different aspects of tax reform including direct and indirect tax systems design, reducing burden on the poor, improvement in tax administration, and coordinating tax instruments. [1] This paper investigates indirect tax reform in a tourism-dependent developing economy, Mauritius. The efficiency and equity impact of changes in sales tax rates from the current tax structure for each sector are identified, with special attention of the modeling being given to tourism-related sectors. Recent figures show that tourism is now the second largest foreign exchange earner, after manufacturing, with sugar in third place. Tourism earnings as a percentage of total exports increased from 5.9% in 1975 to 14.9% in 1990 and to 20.2% in 2002. The tourism sector is now a major pillar of the Mauritian economy, with gross tourism receipts contributing to about 19% of GDP, 4.6% of employment, and generating more than 12% of tax revenue directly and indirectly (Durbarry, 2002). [2]

International tourism plays a significant role in the economic development of many developing as well as developed countries (Dieke, 1993; Gray, 1987; Sinclair, 1998); offering a potential major source of foreign exchange receipts, employment, and increased economic activity in general. Consequently, tourism is a prime target for taxation in several economies, including Mauritius. As noted by Bird (1992), despite the importance of the tourism sector in developing countries, very few studies have been undertaken to analyze tourism taxation.

Bird (1992) argues that developing countries tend to undertax their tourism sectors. In particular where there are distinctive and differentiated natural amenities and the demand for tourism products is relatively inelastic, there is scope to "extract" more tax revenue. Such increases in taxation may well also reduce environmental degradation, but they also risk reducing foreign earnings from tourism if demand for a specific country's tourism product is more elastic than anticipated. This is in particular a risk in the long term if the distinctiveness of a specific tourism location decreases

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with the accumulation of tourist arrivals and the development of alternative destinations.

Tax reform in tourism-dependent economies is of particular interest because of the distinctive characteristics of the tourism sector for tax modeling purposes, with tourism-related commodities being consumed by both domestic residents and international tourists. This characteristic offers policymakers the possibility of increasing tax revenue at a relatively lower (domestic) social cost than alternative means of tax generation. The risk facing such a tax policy is that tourists may substitute from higher to lower taxed destinations and that increased taxation of tourism-related commodities might adversely affect domestic consumers or specific groups of consumers. Capturing such linkages is difficult or impossible using partial equilibrium methods of analysis. Nevertheless, relatively little empirical analysis on this topic has used general equilibrium methods. There are a few studies that have used computable general equilibrium (CGE) models to analyze tourism (for example, Adams & Parmenter, 1995), but they do not investigate taxation of the tourism sector. An exception is Blake (2000) who uses a CGE model to evaluate the economic impacts of tourism taxation for the Spanish economy. This study explores the resource allocation and overall welfare effects of taxing international and domestic tourism activities, but wholly abstracts from distributional considerations.

This study uses the CGE approach of Blake (2000), but applied to a developing country rather than an industrialized country and incorporates distributional considerations in the analysis. The above work reviewed does not explore equity effects. The model consists of 17 sectors and eight household types, and is applied to Mauritius to investigate indirect commodity tax reform in the presence of tourism in order to explore the relative benefits of taxing tourism-related and nontourism sectors. The tax system in Mauritius consists of mainly the income tax, corporate tax, sales tax, import tariffs, excise duty, gambling tax and hotel tax. Like most developing countries, the economy relies highly on indirect taxes, which consist of 78% of total tax revenue collected and represent around 60% of total government revenue. The structure of tax revenue in Mauritius is given in Table 1. In 2001, the sales tax was replaced by a Value Added Tax (VAT). The general VAT rate in Mauritius is currently 10%, but there are several specific commodities that are exempted from sales tax or taxed at lower or higher rates. Following the introduction of the VAT, the contribution of sales tax/VAT revenue to overall tax revenue has more than doubled, increasing from 18% in 1997/8 to 39% in 2002/03, while trade tax reliance has fallen from 40% to 26% over that period. [3]

Table 1. *Structure of tax revenue in Mauritius*

	1997/98		2002/03	
	$Mn	%	$Mn	%
Direct tax	121.5	23	186.2	22
Income tax	*42.7*	*8*	*64.1*	*7*
Corporate tax	*40.4*	*8*	*74.3*	*9*
Taxes on property and other	*38.4*	*7*	*47.8*	*6*
Indirect tax	404.7	77	677.1	78
Sales tax	93.9	*18*	*338.4*	39
Excise tax	52.7	*10*	*80.4*	9
Tax on gambling	24.3	*5*	*33.3*	*4*
Hotel tax	*21.4*	*4*	*0.1*	*0*
Import duties	*212.3*	*40*	*224.9*	*26*
Total	526.1	100	863.3	100

The paper explores marginal tax reforms using the concept of *marginal excess burden*. For the existing, nonoptimal structure of taxes and tax rates, the incremental welfare cost of raising extra revenue through marginal changes to sales tax rates on alternative sectors is measured. The results indicate that taxation of the tourism sector would be relatively efficient, and that taxation of the sector is currently below the constrained "optimal" level. This conclusion also holds when allowance is made for equity considerations as well as allocative efficiency issues.

The remainder of the paper is organized as follows. Section 2 provides an overview of the structure of the CGE model used. In Section 3, the concept of the marginal excess burden (MEB) is explained, and its use in modeling marginal tax reform is explained. Estimates of MEBs based on efficiency grounds only are derived (Section 4) for each of the sectors of the economy. The sensitivity of these estimates based on different levels of inequality aversion is analyzed in Section 5. Finally, the summary conclusions of the paper are set out in Section 6.

2. THE COMPUTABLE GENERAL EQUILIBRIUM MODEL

We use a single country CGE model, where Mauritius is taken as a small open economy,