



## ABSTRACT

- The effect of tourism taxes on choice behaviour and welfare is under-researched and the scope for applying random utility theory in a discrete choice framework to study it will advance our knowledge on the topic.
- This study is motivated based on microeconomic theory of consumer behaviour and welfare, and utilizes multinomial econometric models.
- This study will use household survey data for OECD countries and the mixed logit regression to estimate parameters of the random utility model.

## BACKGROUND

- Taxes have continued to rise in recent times (See Figure 1 and 2).
- Special tourism taxes have also been introduced. Tourism taxes are directly imposed on tourism specific products or tourists, and these taxes have increased in recent times, including user charges and other payments levied on tourism products (WTO 1998). See table 1.
- In the literature, changes in the amount of tourism tax as well as introduction of new taxes have been met by *mixed impact assessments* on business activities and government revenue, with majority of past findings arguing for or against its use by the government.
- However, effect on consumer choice and welfare is yet to be thoroughly investigated.

## RESEARCH AIM

- The aim of this research is to examine the impact of tourism taxes on choice behaviour and welfare of consumers (tourists), using microeconomic theory and econometric modelling.

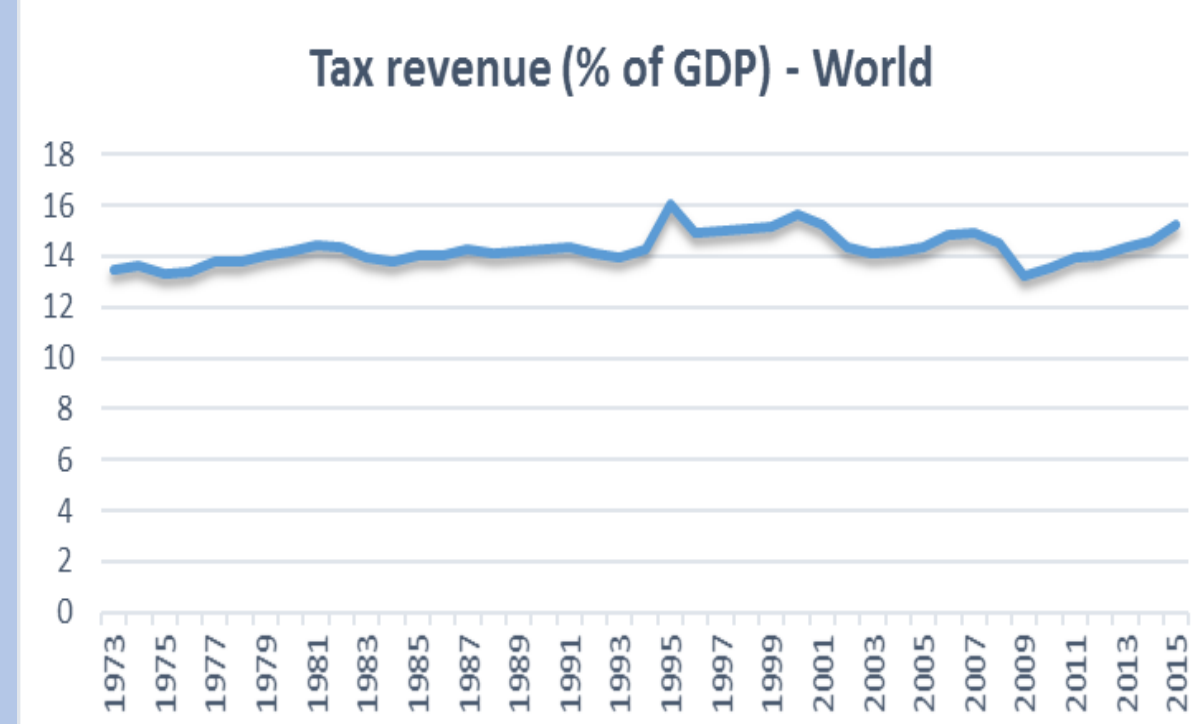


Fig. 1: Tax revenue as a percentage of GDP.

Source: Author's Compilation

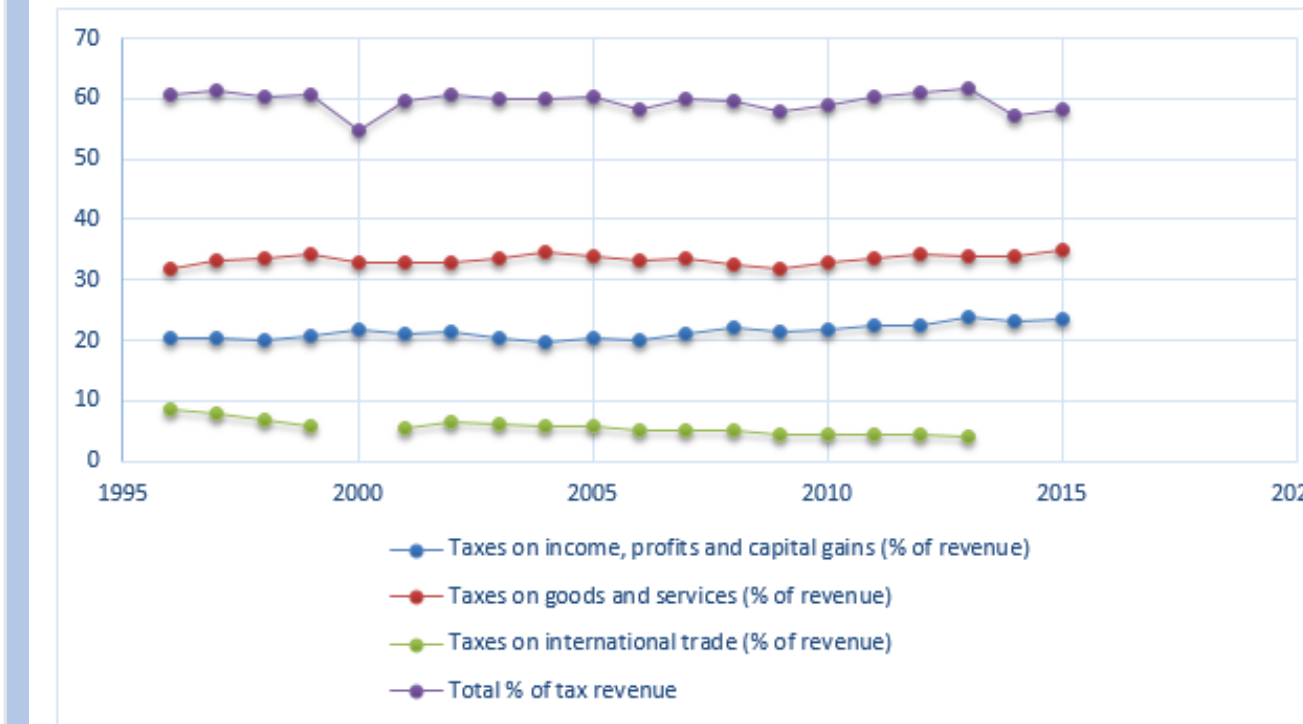


Fig. 2: Share of various taxes in total tax revenue

Table 1: Types of tourism taxes. Source: WTO, 1998 p.32

Sector	Name of Tax	Sector	Name of Tax
Entry/Exit Taxes	Resident departure tax/foreign travel tax	Hotels/Accommodation	Bed night tax
	Visa/travel permit		Bed tax
Air Travel	Air passenger duty		Occupancy tax
	Air ticket tax		Differential VAT rate
	Airline fuel tax		Surtax
	Departure tax		Sales tax
Airports / Seaports / Road Borders	Passenger service tax		Service tax
	Airport security tax		Turnover tax
	Airport parking tax		Hotel and restaurant tax
	Transit taxes		Temporary lodging tax
Environment	Trekking/mountaineering fees		
	Eco-tourism tax; Carbon tax; Landfill tax		

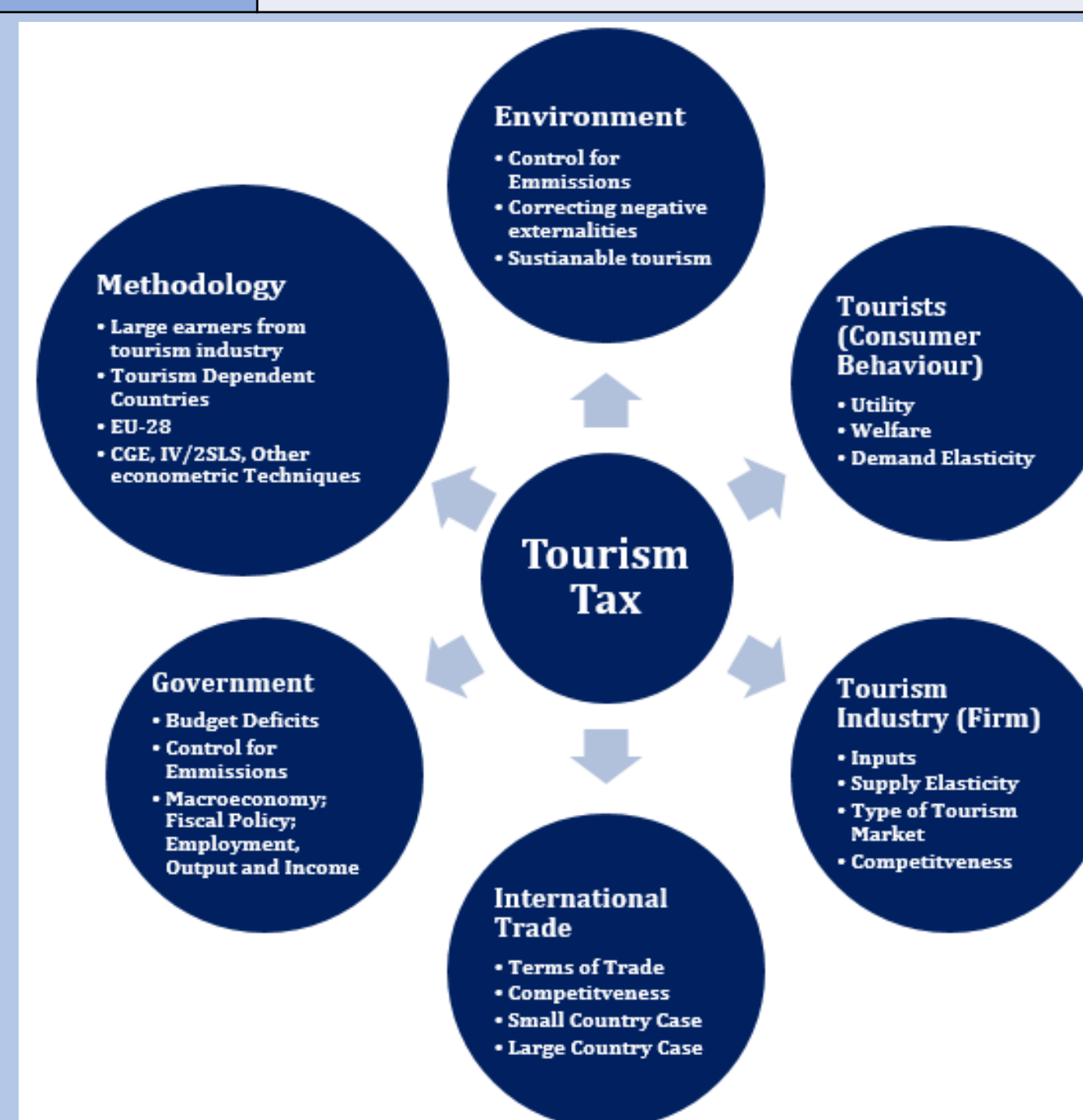


Fig. 3: Dimensions of tourism tax.

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In the literature, research in tourism taxation have adopted a number of CGE models and have focused on these *dimensions*, but not with sufficient emphasis on consumer choice and consequent welfare impact.

## RANDOM UTILITY MODEL - RUM

- RUM is an alternative utility theory that can explain consumer choice behaviour and welfare. RUM has two major assumptions; that consumer choice is a discrete event, not continuous, and not divisible; and that utility derived from consuming a product varies across individuals as a random variable.
- RUM combines data on observable economic data on the tourism product and the consumer (as explanatory variables such as taxes, income, and quantity consumed), and also identify unobservable aspect of consumption known solely to the decision maker (such as utility and consumer preferences).

## METHODOLOGY AND DATA

- This study will use logistic regression on parameters of the random utility model to empirically measure the effect of changes in public policy on choice and welfare, using household level data from selected OECD countries.
- The class of nonlinear model called *the multinomial logit* will be used. Although, different versions of RUM make several assumptions about the cumulative distribution of the random term, yet, the basic assumption is that the *random* terms are independently and identically distributed (IID), hence, we obtain a mixed logit model:

$$P_{td} = \frac{e^{x'_{td}\beta_d}}{\sum_{i=1}^D e^{x'_{ti}\beta_i}} \quad (1)$$

where:  $P_{td}$  is the choice probability for product  $d$  ( $d = 1, 2, \dots, D$ ) for tourist  $t$ ;  $x'_{td}$  is a vector of independent variables that influences product  $d$  for consumer  $t$ ; and  $\beta_i$  is a vector of unknown parameters for each independent variable for product  $d$ .

## REFERENCES

- Mak, J., 2006. 11 Taxation of travel and tourism. In: Dwyer, L. and F. P., ed. International Handbook on the Economics of Tourism. Edward Elgar Publishing Limited, 251–265.
- WTO, 1998. Striking a Fair Deal. Madrid, Spain: World Tourism organization.