

**World Health Organization  
ECONOMICS OF TOBACCO TOOLKIT**

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# **Economic Analysis of Demand Using Data from the Global Adult Tobacco Survey (GATS)**



**World Health  
Organization**

## WHO Library Cataloguing-in-Publication Data

Economics of tobacco toolkit: economic analysis of demand using data from the Global Adult Tobacco Survey (GATS).

1.Smoking - epidemiology. 2.Smoking - economics. 3.Smoking cessation - statistics and numerical data. 4.Tobacco use disorder - epidemiology. 5.Population surveillance. 6.Tobacco - economics. 7.Data collection. 8.Developing countries. I.World Health Organization. II.WHO Tobacco Free Initiative.

ISBN 978 92 4 150016 6

(NLM classification: WM 290)

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## **Acknowledgement**

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# I. Introduction

Tobacco use kills approximately 5 million people worldwide every year (WHO Report on the Global Epidemic, 2008). As such, tobacco is the single most preventable cause of death worldwide. If current trends in tobacco consumption continue, by 2030 tobacco's annual death toll could rise to more than 8 million. Because tobacco consumption is causally related to an extensive and ever-growing array of health consequences that result in a tremendous amount of morbidity and mortality, it is important to understand the determinants of tobacco demand.

This toolkit explains how to use data from the Global Adult Tobacco Survey (GATS) to investigate economic aspects of smoking patterns and the economic determinants of tobacco demand. Its emphasis is on machine-made cigarettes, how ever its analyses can be used for other tobacco products as well.

There are essentially two parts to this toolkit. While they explain procedures which differ in method and scope, both types of analysis are important for obtaining a full understanding of the economics of tobacco use within a country. The first part, Section 3, focuses on basic descriptive economic statistics. Its emphasis is on the prices and quantity of cigarettes and how these vary across socioeconomic groups. The second part of the toolkit, Section 4, explains how to investigate the determinants of tobacco demand using multivariate regression techniques. In particular, the second part focuses on using GATS data to calculate meaningful cigarette price elasticities.

This toolkit is designed for researchers, and its material assumes a basic knowledge of economics and econometrics. It also assumes familiarity with statistical packages such as SAS or Stata. GATS data is assumed to be coded and in machine readable form such as in ASCII format.

## II. GATS Overview

The CDC Foundation received a grant in 2006 from Bloomberg Philanthropies to establish systematic surveys to monitor global tobacco use among adults. The CDC Foundation, in conjunction with the Office on Smoking and Health of the Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), the Johns Hopkins Bloomberg School of Public Health (JHSPH), RTI International, and countries throughout the globe are working jointly to design and implement the Global Adult Tobacco Survey or GATS. GATS collects data on tobacco use in the low- and middle-income countries with the highest smoking rates. The GATS is designed to be a nationally representative survey of all non-institutionalized men and women aged more than 14 years old.

The main objectives of this survey are to provide estimates of tobacco use, estimates of second-hand smoke exposure, and estimates of tobacco quit attempt frequencies. The survey questionnaire consists of eight sections including: respondent background characteristics; tobacco smoking activities; smokeless tobacco activities; smoking cessation activities; location of exposure to second-hand smoke; money spent on tobacco, brand of cigarettes purchased, and places cigarettes were purchased; exposure to media and smoking advertisements; and finally knowledge, attitude, and perceptions about the risks of smoking.

The survey design requirements for this study have been developed so that precise estimates can be generated for each

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