



The Economics of Tobacco Control Project

SALDRU seminar

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and Nicole Vellios

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Why is tobacco control important?



- **World-wide:**
 - More than 1.2 billion smokers
 - About 6 million people worldwide die from tobacco-related diseases each year
 - The burden of disease is increasingly shifting to low- and middle-income countries
- **South Africa:**
 - About 7 million smokers (20% adult prevalence in 2013)
 - In 2000 about 44 000 people died from tobacco related diseases (Groenewald et al. 2007)
 - Tobacco use was the third most important risk factor for premature death (after unsafe sex and high blood pressure) (8.5% of total deaths)



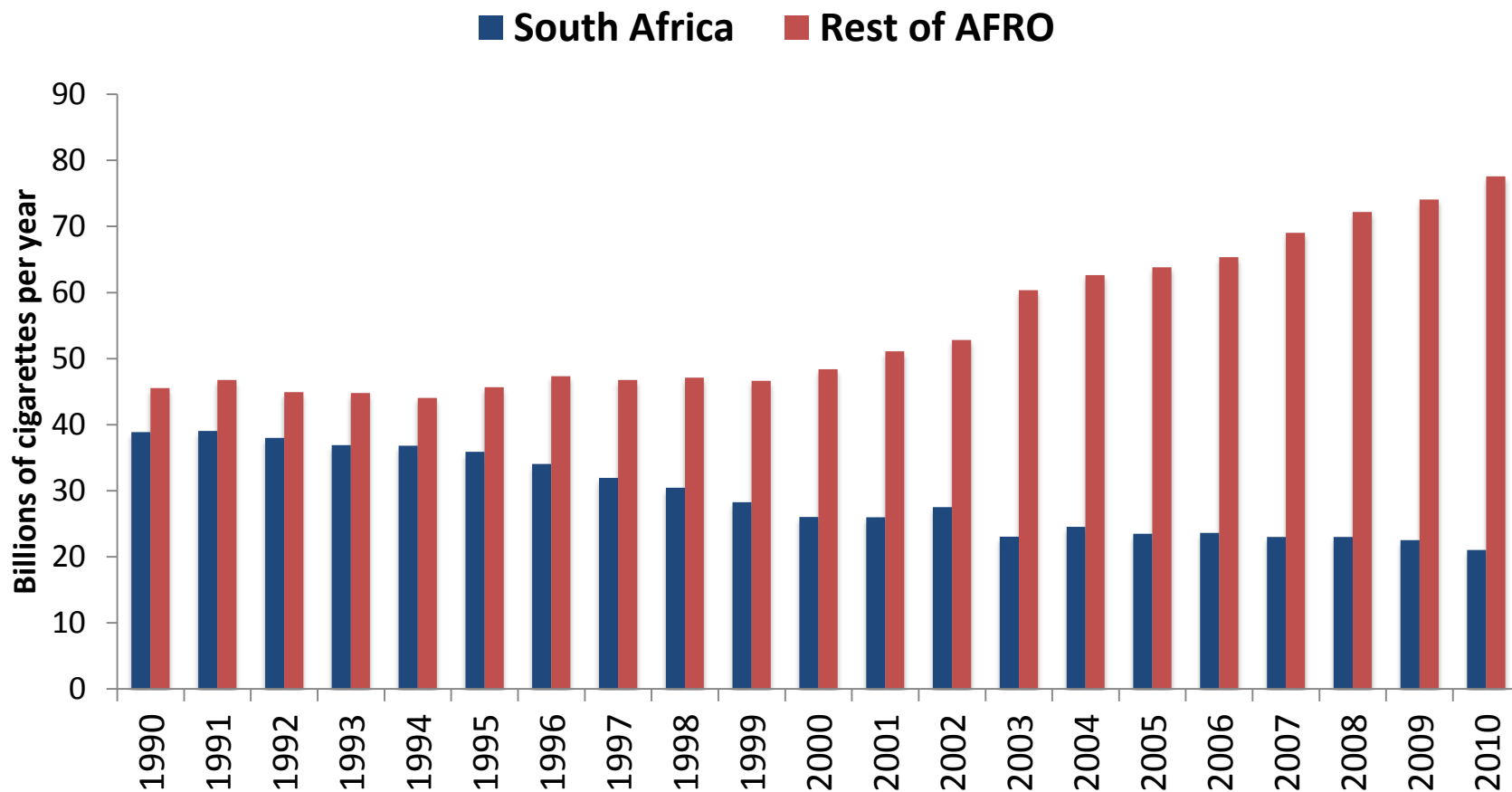
The Framework Convention on Tobacco Control



- Adopted by the World Health Assembly in 2003
- Currently 180 countries are members of the FCTC, covering about 90% of the world's population
- Aims to reduce tobacco use through both demand and supply measures
- Important tobacco control tools:
 - Increase excise tax and price (Art. 6)
 - Protection from exposure to tobacco smoke (“clean indoor air policies”) (Art. 8)
 - Tobacco product regulation and disclosures (Art. 9 & 10)
 - Packaging and labelling (Art. 11)
 - Education, communication, training and public awareness (Art. 12)
 - Banning tobacco advertising, promotion and sponsorship (Art. 13)
 - Provide cessation services (Art. 14)
 - Eliminate illicit trade (Art. 15)

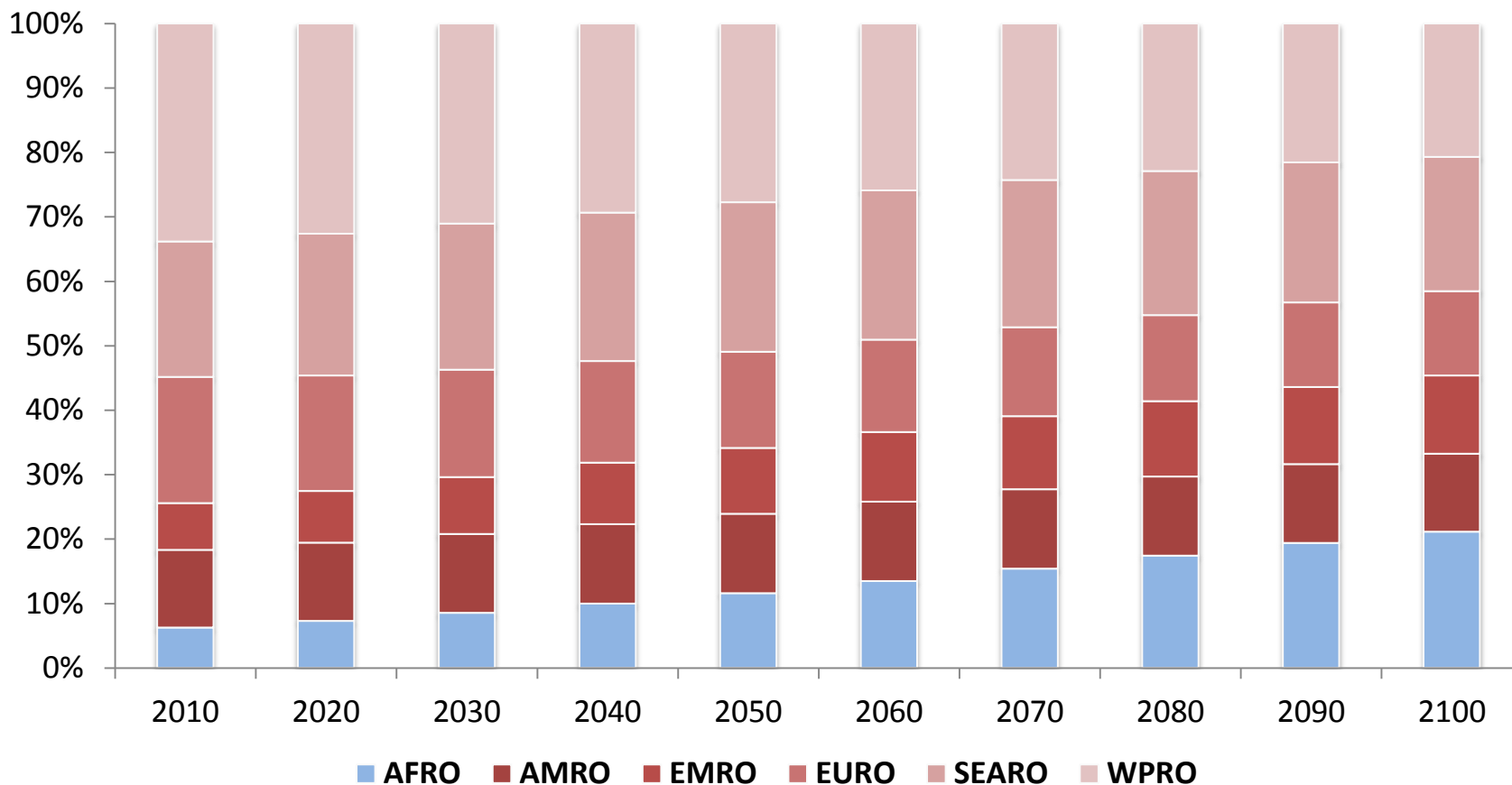
Why do we focus on Africa?

Cigarette consumption over time in Africa



Source: Blecher and Ross (2013)

Why do we focus on Africa: Forecasted proportion of smokers by region



Source: Blecher and Ross (2013)

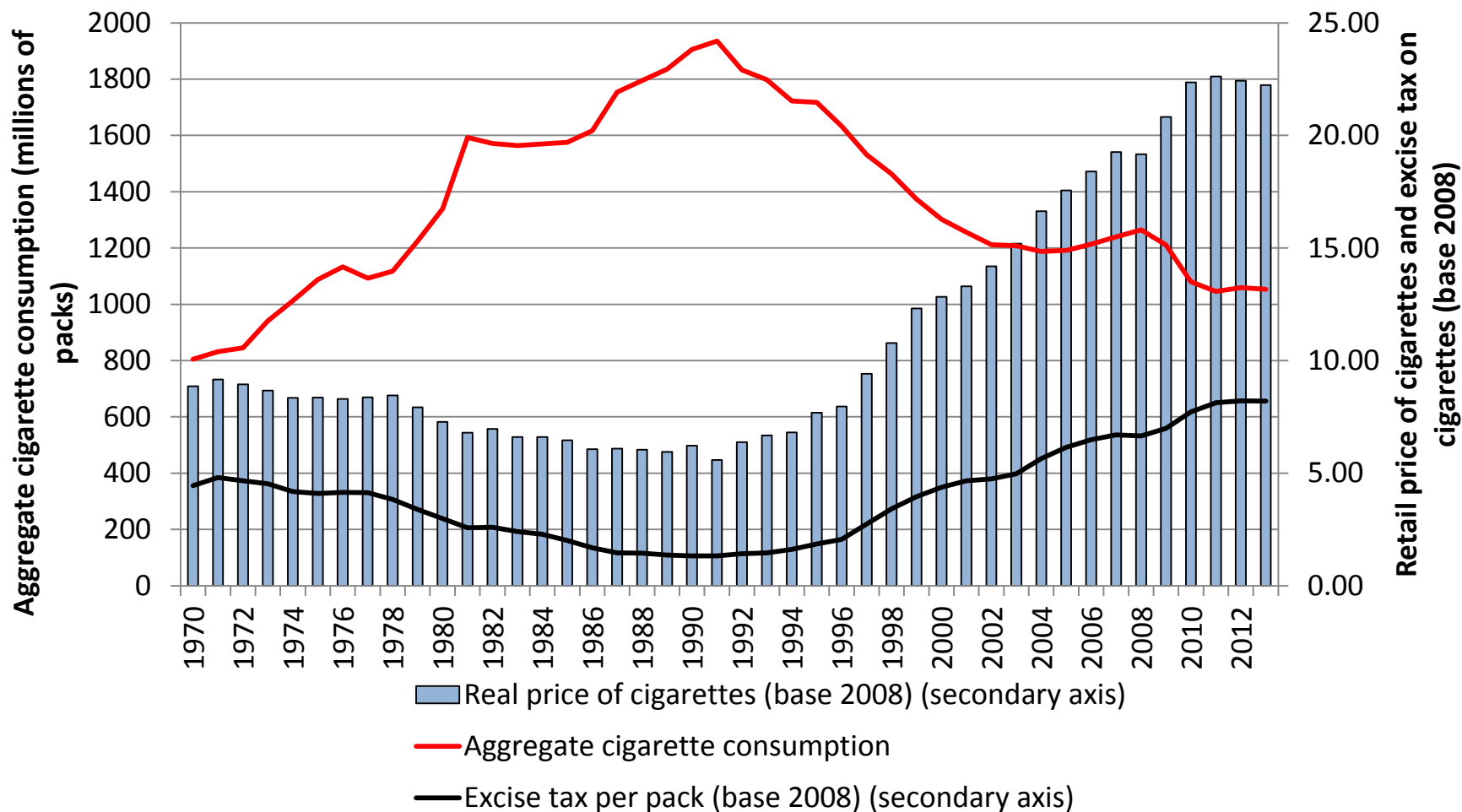


History of tobacco control research at UCT



- Mid- to late 1990s:
 - Iraj Abedian launched the first Economics of Tobacco Control Project (within AFReC)
 - Research provided strong economic support to anti-tobacco legislation of 1999
- Early 2000s:
 - Second phase of the Economics of Tobacco Control Project
 - South Africa is a role model for other developing countries, especially for using excise tax increases as a tobacco control tool
 - We also did some ad hoc evaluation the implementation of the 1999 Tobacco Products Control Amendment Act

South Africa as a role model





The current Economics of Tobacco Control Project



- **2011-2012: American Cancer Society**
 - Institutionalise the “ad hoc” capacity at UCT School of Economics
 - Develop a self-sustaining research unit
- **2012-2014: Gates/African Tobacco Control Consortium**
 - Scale up & out the project to increase the technical content knowledge of the economics of tobacco control in Africa
 - Increase the profile of economic & tax issues in tobacco control in Africa within the broader economic community
 - Train advocates to become literate in economic & tax issues to better facilitate advocacy efforts & policy development
 - Create a program to train & develop researchers in the area
- **2015-2017: Gates/African Capacity Building Foundation**
 - Extension of previous grant with increased funding
 - UCT now the primary organization



Project Objectives



1. Scholarships to postgraduate students
2. Technical assistance and support on tobacco tax to countries or regional groupings
3. Emerging researcher programme



Key People



- Corne Van Walbeek, Principal Investigator
- Evan Blecher, Project Director
 - Senior Economist, American Cancer Society (seconded to UCT)
- Hana Ross, Principal Research Officer (SALDRU)
- Nicole Vellios, Researcher
- Grieve Chelwa, PhD Candidate
- Sharon de Bruyns, Administrator



Key People



- **Scholarships**

- Already graduated five Masters students and one Honours student between 2012 and 2014
- Expect to graduate first PhD this year
- Currently have 2 PhD students, 2 Masters students and one Honours student funded
- Funding of students not limited to UCT but extends to other institutions with other institutions (e.g. agricultural economics at University of Pretoria)
- Also collaborate with graduate students at other institutions (e.g. University of Michigan, Emory)



Some examples of postgraduate research



- **South Africa focused**

- The prevalence of water-pipe smoking among tertiary students in the Western Cape (Lara Kruger)
- The determinants of smoking initiation in South Africa, using survival analysis (Nicole Vellios)
- A study on the causes of the real net-of-tax increases in cigarette prices in South Africa (Diana Nyabongo)
- Declining tobacco production in South Africa: Analyzing key drivers of change (Clarina Du Preez, University of Pretoria)

- **Focused on other African regions/countries**

- The socioeconomics of tobacco use in the *Southern African Customs Union* (Linda Nyabonga)
- The impact of excise tax harmonization in the *East African Community* (Jodie Posen)
- Price and income elasticities of demand in *Uganda* (Grieve Chelwa)
- Assessing the causal impact of tobacco expenditure on households' spending patterns in *Zambia* (Grieve Chelwa)

Project Objectives (2)



- **Technical assistance and support on tobacco tax**
 - Direct to Ministries of Finance/Ministries of Health
 - World Bank
 - World Health Organization
 - Treaty Secretariat of the Framework Convention on Tobacco Control
 - Campaign for Tobacco Free Kids (NGO)
 - Framework Convention Alliance (NGO)



Some regions/countries we were involved with



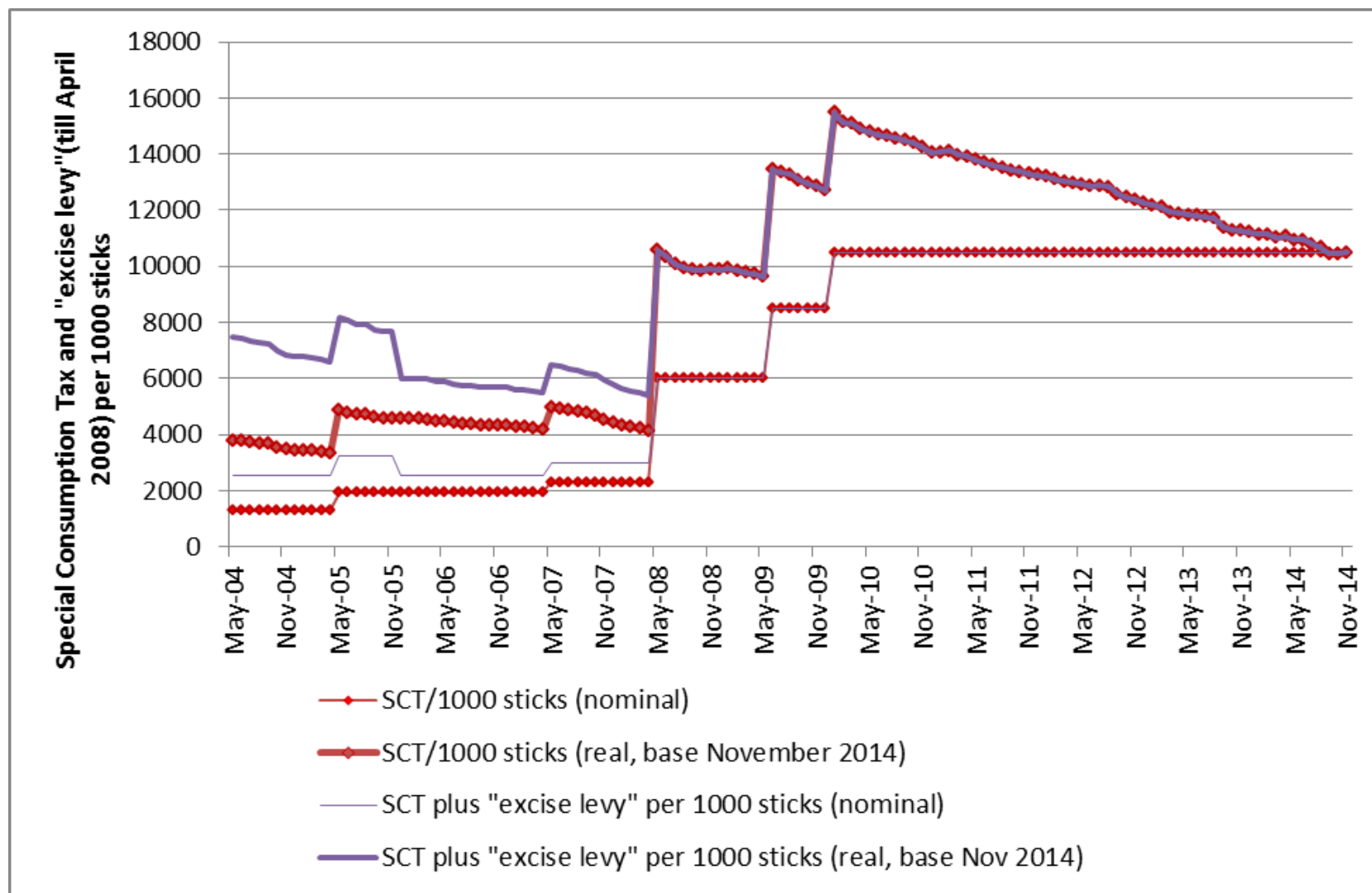
- **Regional blocs**
 - East African Community
 - Tax harmonization
 - West African Economic and Monetary Union (WAEMU) and Economic Community of West African States (ECOWAS)
 - Structural tax reform and tax harmonisation
- **Individual countries**
 - Kenya & Uganda
 - Tax increases and tax structure reform
 - Botswana
 - Introducing a levy above the SACU excise tax
 - Cameroon & Chad
 - Tax situational analysis

An example: Jamaica

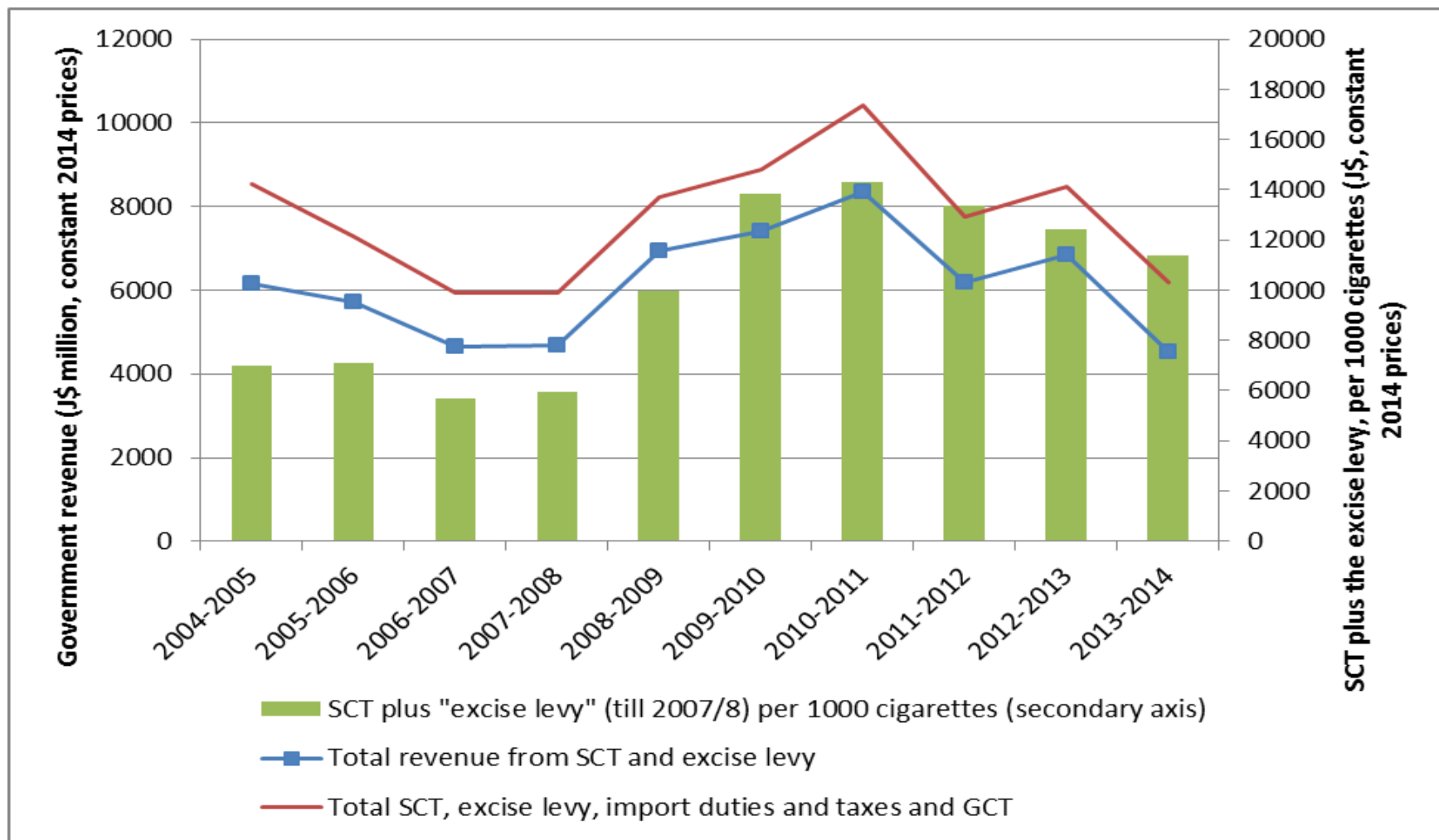


- **Goal:**
 - Evaluate historical tax increase and modelling potential tax increase (2005 and 2015)
- **Partners:**
 - Pan-American Health Organisation (PAHO), Jamaican Ministries of Health and Finance
- **Findings:**
 - Until 2008 the excise tax system was unnecessarily complex, which was exploited to the industry's benefit
 - Excise tax was a Special Consumption Tax (SCT), levied as a specific tax, but subject to additional ad valorem taxes in excess of a "base price"
 - The "increase" in the excise tax gave an excuse for the industry to raise the retail price and its profits, through the fine print of the SCT
 - The excise tax system was greatly simplified in 2008
 - Since 2010 the nominal excise tax did not change, resulting in a decrease in the real excise tax and real government revenue

The nominal and real excise tax in Jamaica



Excise tax revenues in Jamaica



Jamaica (continued)



- **Suggestions:**
 - Simpler tax structures are better
 - Specific excise taxes are good but they have to be adjusted regularly to keep pace with inflation
- **Outcomes:**
 - Jamaican government raised the excise tax from J\$ 210 to J\$ 250 per pack in April 2015

Another example: Ghana



- **Goal:**
 - Model tax reforms and increases on tobacco and alcohol
- **Partners:**
 - World Bank, Ghanaian Ministry of Finance
- **Current tax structure:**
 - For cigarettes: ad valorem excise tax at 150% of CIF value
 - For alcohol: ad valorem excise tax with tiers (based on local content)
- **Findings:**
 - For imported product the reported CIF value is very low
 - Total tax burden on cigarettes and alcohol is well below comparative burdens, despite the fact that the tax sounds high
- **Suggestion:**
 - Replace ad valorem tax system with a specific tax system, adjusted in line with inflation
- **Outcome:**
 - Excise tax on cigarettes was increased to 175% of CIF value ☹️



Project Objectives (3)



- **Emerging researcher programme (ERP)**
 - Grow research and technical capacity for tobacco control outside of UCT
 - We have experimented with the ERP over the last two years
 - Participants from many African countries, from universities, government and civil society
 - Challenges:
 - Short term approach (one year interaction)
 - Diverse background (didn't always focus on economics)
 - Limited mentorship



Dalinyong et al. *Tobacco Induced Diseases* (2015) 13:12
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RESEARCH

Open Access

A retrospective analysis of the association between tobacco smoking and deaths from respiratory and cardiovascular diseases in the Kassena-Nankana districts of Northern Ghana

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Abstract

Background: Tobacco use is a public health problem, responsible for approximately six million deaths annually worldwide. It is a risk factor for many diseases including cancers, respiratory and cardiovascular diseases. In low-and middle-income countries, respiratory and cardiovascular diseases are important causes of death. Tobacco use is prevalent in Ghana, but no study had examined the relationship between tobacco use and deaths from respiratory and cardiovascular diseases in the Upper East Region of Northern Ghana. Hence the paper assessed the association between tobacco use and deaths from respiratory and cardiovascular diseases in that region.

Methods: The study used verbal autopsy data collected from the Kassena-Nankana East and West districts of the Upper East Region of Northern Ghana. Data from deceased individuals aged 15 to 59 years whose deaths occurred between January 1, 2004 and December 31, 2011 and with a known cause as well as smoking status were analyzed. Two binary outcome variables were generated from the cause of death data; whether an individual died from respiratory diseases or not, and from cardiovascular diseases or not. Multiple logistic regression models were used to assess the relationship between tobacco use and deaths from respiratory and cardiovascular diseases.

Results: Out of 3,492 deaths with a known cause of death and smoking status, a third of them smoked. About 16.6% of smokers and 8.1% of non-smokers died from respiratory diseases. Approximately, 10.7% of smokers died from cardiovascular diseases compared to 10.6% of non-smokers. In multivariate analyses, individuals with a history of smoking had two-fold increased odds [OR=2.18, 95% CI (1.6-2.9)] of dying from respiratory diseases. Besides, the number of years of smoking as well as the frequency of smoking is significantly associated with deaths from respiratory diseases. No association existed between tobacco use and deaths from cardiovascular diseases.

Conclusions: Within our study we identified a strong relationship between tobacco use and deaths from respiratory diseases, but not an association with deaths from cardiovascular diseases. Our findings highlight the need to make appropriate health interventions to control tobacco use and thus help reduce premature deaths from respiratory and other tobacco linked diseases.

Keywords: Tobacco, Cigarette smoking, Respiratory diseases, Cardiovascular diseases, Verbal autopsy, Navrongo, Kassena-Nankana districts, Ghana

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Main research focus areas of the ETC Project



- Tobacco control (Africa and LMIC focus)
 - Tax structures
 - Tax levels
 - The relationship between excise tax and price
 - Illicit trade
 - International coordination (blocs and economic integration)
- Alcohol policy in South Africa



Are the tobacco industry's claims about the size of the illicit cigarette market credible? The case of South Africa

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ABSTRACT

Background: The tobacco industry claims that illicit cigarette trade in South Africa is high and rising. This is often used as an argument not to increase the tobacco excise tax or to regulate tobacco products. **Objectives:** To determine how the tobacco industry's estimates of the size of the illicit cigarette market have changed over time. **Methods:** Published media articles were obtained from South African Press Cuttings; published articles and press releases were sourced from the internet. The period of interest is 1990–2012. **Results:** Between 1990 and 2012 we found 90 newspaper articles and press statements that emphasised the tobacco industry's view on illicit trade. Articles that reported an action taken against illicit trade were excluded.

Between 2006 and early 2011 the Tobacco Institute of South Africa, a body representing the interests of large cigarette companies, reported that South Africa's illicit cigarette market share was 20%. This share increased to 25% in late 2011 and 30% in 2012. In a 2012 presentation by Tobacco Institute of Southern Africa to National Treasury the illicit market share in 2008 was indicated as 7.9%, compared with claims in that year that the illicit market share was 20%. Industry findings that the illicit market decreased in 2007 and 2008 were not reported in the press. **Conclusions:** The tobacco industry has adjusted previous estimates of the illicit trade share downwards to create the impression that illicit trade is high and rising. If previous estimates by the tobacco industry were incorrect the credibility of current estimates should be questioned.

INTRODUCTION

Cigarette consumption in South Africa has fallen by more than 40% in aggregate terms and by more than 60% in per capita terms since the early 1990s.¹ This was the result of a deliberate tobacco control policy based on, among others, large increases in the excise tax.² The international literature indicates that increasing the excise tax is the single most effective tobacco control measure.³ Since 1993 the real (ie, inflation-adjusted) excise tax on cigarettes increased by nearly 5000% per pack and the real net-of-tax price doubled (see figure 1).⁴ As a result, the real retail price of cigarettes increased by 200% over the past 20 years.

In South Africa the excise tax on tobacco products is levied as a specific tax. The National Treasury annually adjusts the excise tax on cigarettes. According to the National Treasury's policy it

at the minimum, increase the excise tax by the inflation rate percentage (Cecil Morden, Chief Director, Economic Tax Analysis at National Treasury, South Africa, Personal communication, 8 December 2012). In reality the excise tax has increased by substantially more than the inflation rate, for reasons explained below.

The excise tax is set at a level where the sum of the excise tax and the value-added tax (VAT) comprise 52% of the recommended retail price of the most popular price category of cigarettes. This policy has been in place since 1994, initially with a 50% total tax burden, but since 2004 with 52% total tax burden.⁵

Although easy to understand and apply, this formulaic approach to setting the excise tax places a lot of power in the hands of the tobacco industry. The tobacco industry, through its control of the net-of-tax price (which is defined as the retail price less the excise tax and VAT), controls the retail price. Throughout the 1990s and for most years between 2000 and 2010 the tobacco industry increased the net-of-tax price by substantially more than the inflation rate. The sharp increases in the real net-of-tax price resulted in an immediate increase in the real retail price of cigarettes. In order to keep to its targeted total tax burden percentage, the National Treasury passively increased the excise tax by an above-inflation percentage in the subsequent year. This cycle of increasing net-of-tax prices feeding increasing retail prices, which in turn increased the excise tax has been a feature of the South African cigarette market for nearly 20 years (1992–2010). The large excise tax increases between 1994 and the late 1990s were primarily the result of the government's desire to reduce cigarette consumption, and to bring the total tax burden to the targeted 50% level. The excise tax increases between 2000 and 2010 were nearly exclusively the predictable consequences of the tobacco industry's aggressive pricing policies (see figure 1).

Not surprisingly, the South African tobacco industry strongly opposed the excise tax increases. Arguments against the tax increases varied (eg, that the tax increases would not reduce tobacco consumption and that it would have detrimental employment effects), but by far the most common argument was that it would encourage cigarette smuggling and other illicit activity, with associated detrimental consequences (eg, revenue loss, the fueling of organised crime and that illicit cigarettes are more toxic). The tobacco industry never acknowledged to the media that it effectively set the excise tax amount.

Tobacco control in Namibia: the importance of government capacity, media coverage and industry interference

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ABSTRACT

Background: Namibia is typical of low-income and middle-income countries with growing tobacco use, but with limited capacity to impose comprehensive tobacco control legislation. Despite initiating dialogue on national tobacco control policy in 1991, the country took nearly 20 years to pass the Tobacco Products Control Act. **Objective:** To use Namibia as a case study to illustrate challenges faced by low-income countries working to formalise tobacco control legislation. **Method:** Face-to-face and telephonic interviews were conducted with 13 bureaucrats and advocates currently or previously engaged in tobacco-related work in Namibia. Tobacco-related news articles from national newspapers were examined.

Results: The constitutional obligation of the government to promote public health laid the foundation for Namibia's tobacco control policy. Staff capacity constraints greatly delayed the passing of tobacco control legislation. It is unclear what influence the tobacco industry's involvement as a stakeholder had on policy, however, in at least one instance, the tobacco industry actively misled government. Namibia's ratification of the Framework Convention on Tobacco Control was instrumental in passing legislation that meets most provisions of the international treaties. The media have generally played a supportive role in pushing the government to pass tobacco control legislation. **Conclusions:** The fact that Namibia was able to pass fairly comprehensive tobacco control legislation with such meagre resources is commendable. The government must now implement the regulations that make the legislation effective. Tobacco control progress in low-income and middle-income nations can be encouraged through use of the media and improved staff and legal capacity within health ministries.

BACKGROUND

While tobacco consumption in Sub-Saharan Africa is low compared with other parts of the world, researchers' projections indicate a dramatic escalation in coming decades.^{1,2} Tobacco companies have been aggressively promoting their products in African nations, where tobacco control legislation is often weak or nonexistent.³ Furthermore, in recent decades, Africa has been experiencing rapid economic growth, and the resulting increases in income have made tobacco more affordable to the population.⁴ Across the continent, health advocates and government officials are working to implement comprehensive tobacco control legislation in order to prevent an expanded tobacco-related disease burden.

Like many African countries, Namibia is still in the early stages of the tobacco epidemic, and can prevent much of the premature death and morbidity if it takes action now. In 2007, Namibia's Demographic and Health Survey reported 21% of men and 5% of women aged 15–49 were current cigarette smokers.⁵

With 2.3 million people living in a country twice the size of Germany, Namibia is a sparsely populated African nation. A former German colony, South-West Africa became an administrative region of South Africa in 1919 and gained independence in 1990, officially changing its name to Namibia. The World Bank reclassified Namibia from a lower middle-income country to a higher middle-income country in 2011.⁶ This recent increase in average income hides the fact that Namibia has the most unequal recorded distribution of income in the world.⁷

The Tobacco Products Control Act of Namibia had its genesis in 1991, was publicly announced in 1998, and eventually passed in 2010 despite delays and sporadic interference by the tobacco industry. Namibia signed the World Health Organization's Framework Convention on Tobacco Control (WHO FCTC) in January 2004 and ratified it in November 2005.⁸ After nearly two decades of effort, the country was able to pass comprehensive tobacco control legislation in line with many provisions of the FCTC. At the time of writing (January 2013) the country still needs to finalise the regulations that give effect to the legislation.

The Namibian experience may reflect some of the challenges faced by low-income and middle-income countries that want to enact effective tobacco control legislation. Understanding the factors that allow these nations to succeed in furthering tobacco control can inform advocacy efforts around the world. The following case study of Namibia offers lessons that carry the potential to drive such progress, especially for other low-income and middle-income countries that wish to learn from the achievements and setbacks of a nation with similar constraints.

METHODS

Semi-structured, face-to-face and phone interviews were conducted from June to August 2011 with 13 individuals including: bureaucrats from the Ministry of Health (2), Ministry of Safety and Security (1), Ministry of Finance (2), the Central Bureau of Statistics (1), the South African Ministry of Health (1), the Cancer Association of Namibia (2) and community health workers at Blue Cross

Addiction Research & Therapy

Research Article

South African College Students' Attitudes Regarding Smoke-Free Policies in Public, on Campus, and in Private Spaces

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Open Access

Abstract

Background: Despite the increase in smoke-free policies globally, there has been limited research regarding reactions to them among young adults. Thus, the objectives of the current study are to examine smoking behaviors and attitudes toward smoke-free policies among South African college students.

Design and Methods: In Summer 2010, University of Cape Town students were recruited for surveys and focus groups through fairs and classroom announcements. Survey assessments included sociodemographics, smoking behaviors, and attitudes toward smoke-free policies. The online survey was completed by 103 college students, and 4 focus groups among 27 college smokers were conducted.

Results: Of 103 survey participants, 41.7% (n=43) were current (past 30-day) smokers. Correlates of current smoking included being male (OR=0.32, p=0.02), having more friends that smoke (OR=1.32, p=0.01), more frequently consuming alcohol (OR=1.77, p=0.00), and having used marijuana in the past 30 days (OR=3.75, p=0.02). Participants reported high levels of approval of smoke-free policies in public (93.2%) and on campus (60.2%) and frequently implemented smoke-free policies in their homes (67.0%) and cars (73.8%). Correlates of receptivity to public policies included not living with smokers (p<0.02) and being nonsmokers (p<0.03). Receptivity to a smoke-free campus was associated with fewer friends who smoke (p<0.02), having nonsmoking parents (p<0.01), and being nonsmokers (p<0.01). Correlates of having a smoke-free home included not using alcohol in the past 30 days (p=0.03), having nonsmoking parents (p<0.04), and not living with smokers (p<0.001). Having a smoke-free car was associated with not recently using alcohol (p<0.02), being on campus (p<0.03), and being nonsmokers (p<0.009). Focus group data indicated that, despite support for smoke-free policies, enforcement of public and campus policies is limited.

Conclusions: Future tobacco control efforts might focus cessation among young adults and enforcement of existing public and campus policies in South Africa.

Introduction

Smoking is the third leading cause of death in South Africa [1]. Eight percent of all deaths, or almost 50,000 South African deaths per year, are a direct result of smoking [1,2]. It is the number one cause of many cancers in South Africa [1,3].

Smoking in South Africa is prevalent. Over 22% of adults (2002–2003) and 24% of youth (2006) smoke [4]. Approximately 16% of adults report smoking daily [4]. There is a large gender imbalance, with 35.9% of males and 18.5% of females smoking [4,5]. Although smoking prevalence among adults has decreased from 32.6% in 1993 to 23.7% in 2009 [3], among 20–24 year olds, prevalence has remained relatively unchanged, increasing slightly from 20.5% in 2001 to 21.7% in 2009 [5]. Along with the declines in smoking prevalence, between 1993 and 2009, aggregate consumption declined by 30.9% and per capita consumption by 49.3%. Van Walbeek [7] ascribes tax induced price increases of 162.8% between 1993 and 2009 as the reason for this decline. In order to reap the benefits of tobacco control policies, a major focus must be to reduce youth smoking, as they are the most vulnerable, high-risk demographic. Overall, young people are less addicted and capable of quitting more easily, highlighting the importance of intervening early [3].

In addition, exposure to second-hand tobacco smoke causes death, disease, and disability [6]. It kills up to 600,000 people every year on a regular basis globally. Second-hand tobacco smoke has similar components to inhaled or inhaled smoke. More importantly, it is three to four times more toxic per gram of particulate matter than mainstream tobacco smoke [8].

In 1993, South Africa established the Tobacco Products Control Act, which restricted smoking in public places, banned smoking on public transport, regulated the sale and advertising of tobacco products, and regulated packaging with warning labels [9]. In 2005, South Africa ratified the WHO Framework Convention on Tobacco Control (FCTC) [10]. As a result, there has been an increased interest in reducing tobacco use and secondhand smoke exposure.

The Behavioral Ecological Model (BEM) [11] highlights social ecological systems and the connection from the highest level of society (eg, tobacco products control act and taxes on cigarettes) to individual factors (eg, smoking attitudes, behaviors, and patterns). In the context of the current study, we examine individual factors and sociocultural and community factors related to the policies affecting the general societal and cultural norms around smoking and secondhand smoke exposure in South Africa. Specifically, we aimed to identify sociodemographic and psychosocial correlates of current smoking and examine reactions

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The rewards, risks and challenges of regional tobacco tax harmonisation

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ABSTRACT

Combining international relations theory and a technical discussion of tobacco taxation, we examine prospects for regional tobacco tax harmonization and how it might heighten the positive effects of taxation for public health. The specific rewards of harmonized tobacco taxation that follow "best practices" might reasonably include increased tax revenue, higher prices for tobacco products and related decreases in tobacco consumption and/or smoking prevalence. Harmonization, however, is often politically and technically challenging as each region has political and economic idiosyncrasies that create multiple, and often conflicting constraints on tax harmonization. For example, governments must overcome different types of collective action problems to agree politically on harmonized policy. Though there is no "one size fits all" approach, we find that setting appropriate and realistic goals and developing reasonable expectations are important for success.

INTRODUCTION

Tobacco tax increases that result in higher prices for tobacco products are considered the most effective tool at reducing tobacco use.¹ In many countries, governments are also finding tobacco taxation to be an effective mechanism to increase revenues. At the same time, regional economic integration is increasing rapidly in many regions with the development of free trade areas (FTAs), customs unions, common markets, economic unions and monetary unions. Some economic blocs have chosen to include tax policy harmonisation (generally, but also tobacco excise taxes specifically) as part of this integration. The purpose of this paper is to consider how tobacco excise tax harmonisation can heighten the positive effects of taxation for public health. At the same time, the paper explores the risks and challenges of tobacco tax harmonisation—including political complexities—and considers how policy makers might mitigate them. Additionally, it is important to consider the motivations of the tobacco industry which may seek to use regional tax harmonisation to undermine tobacco control efforts by slowing policy developments.

This research comprises four major components. We begin with a general discussion of tax harmonisation specific to the context of tobacco. Second, we combine technical discussion with international relations theory to explore the opportunities and challenges of tax harmonisation, incorporating the complexities of navigating both domestic and international politics. We then present case studies from three diverse regions both from a technical perspective and through this theoretical lens. Finally, we

use the experiences from these case studies to draw some important policy lessons.

BACKGROUND

Harmonisation of tax policies is typically part of a broader programme of economic integration. The logic of economic integration derives from the concept of comparative advantage, which demonstrates that economic liberalisation—particularly the removal of barriers to trade (eg, tariffs)—typically increases social welfare.² The broader logic underpinning tax harmonisation is the desire to 'level the playing field' by mitigating the possibility that states will engage in a race to the bottom in terms of low tax policies to attract investment.^{3, 4} Furthermore, tax harmonisation is thought to reduce transaction costs for government and industry⁵ as there is less necessity to expend resources on maintaining differing policies.

There is important variation in the types of tobacco tax harmonisation. In its most typical form, participating countries coordinate the rate of tobacco excise taxation. In many cases, it also compels the type of excise tax: specific, ad valorem or combinations of the two. Harmonisation might also compel countries to agree to a minimum or maximum tax burden (the percentage of excise tax in the price) and/or the minimum or maximum value of tax (a minimum is referred to as a floor while a maximum as a ceiling, independent of whether this is a percentage or a value). Finally, harmonisation might require that countries coordinate regular tobacco tax increases to adjust for inflation and/or income growth.

Tax harmonisation can mitigate certain types of illicit trade in tobacco products by reducing the incentives and opportunities to avoid and evade excise taxes. A tangible example is that, with open borders, a smoker has the opportunity to purchase cigarettes in a lower tax jurisdiction and consume them in a higher tax jurisdiction (tax avoidance, which is legal). A bootlegger has an opportunity to purchase cigarettes in the lower-taxed jurisdiction and resell them in a higher-tax jurisdiction (tax evasion, which is generally illegal). Tax harmonisation thus reduces the incentives and opportunities for tax avoidance and evasion. However, evidence indicates that levels of illicit trade are not higher in jurisdictions with higher tax rates⁶ and that poor tax administration, lax enforcement and/or corruption are the most significant drivers of large-scale illicit trade. Furthermore, regions with highly-harmonised tax regimes do not have lower levels of illicit trade than regions without harmonisation. For example, illicit trade in the European Union (EU) averaged 15% in 2011,⁸ higher than the

Tobacco Use in Africa:

Tobacco Control through Prevention

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Illicit trade



- As taxes increase, so does the incentive to avoid & evade taxes
 - Illicit trade has the ability to undermine tobacco control policy objectives (reduced consumption & increased revenue)
 - However, the tobacco industry has an incentive to exaggerate the extent of illicit trade
- Our research attempts to answer key questions:
 - What is the extent of illicit trade?
 - What are the trends in illicit trade?
 - What is the industry's role in illicit trade?
 - How can governments respond to illicit trade?



Illicit trade research Highlights



full-tax avoidance low-tax evasion consumption tax paid sales illicit trade tax revenue illegally transported

legitimate tax avoidance tax revenue illegally transported

UNDERSTANDING AND MEASURING CIGARETTE TAX AVOIDANCE AND EVASION A METHODOLOGICAL GUIDE

HANA ROSS, PhD

Are the tobacco industry's claims about the size of the illicit cigarette market credible? The case of South Africa

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ABSTRACT The tobacco industry claims that illicit cigarette trade in South Africa is high and rising. This is often used as an argument not to increase the tobacco excise tax or to regulate tobacco products. **Objectives** To determine how the tobacco industry's estimates of the size of the illicit cigarette market have changed over time. **Methods** Published media articles were obtained from South African Press Cuttings; published articles and press releases were sourced from the internet. The period of interest is 1990–2012. **Results** Between 1990 and 2012 we found 90 newspaper articles and press statements that emphasized the tobacco industry's view on illicit trade. Articles that reported an action taken against illicit trade were excluded.

Between 2006 and early 2011 the Tobacco Institute of Southern Africa, a body representing the interests of large cigarette companies, reported that South Africa's illicit cigarette market share was 20%. This share increased to 25% in late 2011 and 30% in 2012. In a 2012 presentation to Tobacco Institute of Southern Africa to National Treasury the illicit market share in 2008 was indicated as 7.5%, compared with claims in that year that the illicit market was 20%. Industry findings that the illicit market decreased in 2007 and 2008 were not reported in the press. **Conclusions** The tobacco industry has adjusted previous estimates of the illicit trade share downwards to create the impression that illicit trade is high and rising. If previous estimates by the tobacco industry were correct the credibility of current estimates should be questioned.

INTRODUCTION Cigarette consumption in South Africa has fallen by more than 40% in aggregate terms and by more than 60% in per capita terms since the early 1990s.¹ This was the result of deliberate tobacco control policy based on, among others, large increases in the excise tax.² The international literature indicates that increasing the excise tax is the single most effective tobacco control measure.³ Since 1990 the real (inflation-adjusted) excise tax on cigarettes increased by nearly 500% per pack and the real net-of-tax price doubled (see Figure 1).⁴ As a result, the real retail price of cigarettes increased by 200% over the past 20 years. In South Africa the excise tax on tobacco products is levied as a specific tax. The National Treasury annually adjusts the excise tax on cigarettes. According to the National Treasury's policy a

will, at the minimum, increase the excise tax by the inflation rate percentage (Geoff Modera, Chief Director, Economic Tax Analysis at National Treasury, South Africa, Personal communications, 8 December 2012). In reality the excise tax has increased by substantially more than the inflation rate, for reasons explained below. The excise tax is set at a level where the sum of the excise tax and the value-added tax (VAT) comprise 52% of the recommended retail price of the most popular price category of cigarettes. This policy has been in place since 1994, initially with a 50% total tax burden, but since 2004 with 52% total tax burden.⁵ Although easy to understand and apply, this formulaic approach to setting the excise tax places a lot of power in the hands of the tobacco industry. The tobacco industry, through its control of the net-of-tax price (which is defined as the retail price less the excise tax and VAT), controls the retail price. Throughout the 1990s and for most years between 2000 and 2010 the tobacco industry increased the net-of-tax price by substantially more than the inflation rate. The sharp increases in the real net-of-tax price resulted in an immediate increase in the real retail price of cigarettes. In order to keep its targeted total tax burden percentage, the National Treasury passively increased the excise tax by an above-inflation percentage in the subsequent year. This cycle of increasing net-of-tax prices leading to increasing retail prices, which in turn increased the excise tax has been a feature of the South African cigarette market for nearly 20 years (1994–2010). The large excise tax increases between 1994 and the late 1990s were primarily the result of the government's desire to reduce cigarette consumption, and to bring the total tax burden to the targeted 50% level. The excise tax increase between 2000 and 2010 were nearly exclusively the predictable consequences of the tobacco industry's aggressive pricing conduct (see Figure 1).

Not surprisingly, the South African tobacco industry strongly opposed the tax increases. Arguments against the tax increases varied (eg, that the tax increases would not reduce tobacco consumption and that it would have detrimental employment effects), but by far the most common argument was that it would encourage cigarette smuggling and other illicit activity, with associated detrimental consequences (eg, revenue loss, the fencing of organized crime, and that illicit cigarettes are more toxic). The tobacco industry never acknowledged to the media that it effectively set the excise tax amount.



Measuring changes in the illicit cigarette market using government revenue data: the example of South Africa

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ABSTRACT The tobacco industry claims that illicit trade in cigarettes has increased sharply since the 1990s and that government has lost substantial tax revenue. **Objectives** (1) To determine whether cigarette excise tax revenue has been below budget in recent years, compared with previous decades. (2) To determine trends in the size of the illicit market since 1995. **Methods** For (1), mean percentage errors and not mean square percentage errors were calculated for budget revenue deviation for three products (cigarettes, beer and spirits), for various subperiods. For (2), predicted changes in total consumption, using actual cigarette price and GDP changes and previously published price and income elasticity estimates, were calculated and compared with changes in tax-paid consumption. **Results** Cigarette excise revenues were 0.7% below budget for 2000–2012 on average, compared with 2.0% below budget for beer and 4.7% below budget for spirits. There is no evidence that illicit trade in cigarettes in South Africa increased between 2002 and 2009. There is a substantial increase in illicit trade in 2010, probably because in 2011 to 2012 tax-paid cigarette consumption increased 46%, implying that the illicit market increased an estimated 10 percentage points. **Conclusions** Other than in 2010, there is no evidence that illicit trade is significantly undermining government revenue. Claims that illicit trade has consistently increased over the past 15 years, and has continued its sharp increase since 2010, are not supported.

(where the product bears a trademark without the consent of the owner of the trademark). Illicit trade of alcohol undermines some of the benefits of an excise tax increase. Government would lose revenue. Some smokers, who may otherwise have quit smoking, would continue their habit by buying cheaper illicit cigarettes. Also, if illicit trade takes the form of counterfeiting, established firms would lose their brands and market shares unfairly undermined. Since 1996, when the chief executive officer of the largest cigarette manufacturer wrote an open letter to the Minister of Health in which he warned her of the threat of cigarette 'smuggling', the industry has argued that excise tax increases stimulate the illicit market. The South African fiscal authorities have apparently bought into this argument. Since 2004 the excise tax structure and rate (expressed as a percentage of the retail price) has remained unchanged. Despite appeals from the Ministry of Health and civil society to increase the excise tax, officials at the Treasury defend the current system on the grounds that it works well for all parties.⁶

When this concern the paper investigates two claims: (1) that increases in illicit cigarette trade significantly undermine the Treasury's excise tax revenue and (2) that there has been a sharp increase in the illicit market in recent years. To investigate the first claim, the paper compares actual excise tax revenue from cigarettes to budgeted excise tax revenue over a long time period. To investigate the second claim, changes in tax-paid cigarette consumption are compared with predicted changes in total cigarette consumption for the period 1995–1995. The predicted changes in cigarette consumption are based on well-established relationships between cigarette consumption and cigarette price and income. If the actual change deviates significantly from the predicted change, this would be consistent with a change in the illicit market size.

METHOD To analyse the Treasury's ability to accurately budget for excise revenue the paper uses two summary statistics often used in analysing the accuracy of forecasts, namely the mean percentage error (MPE) and the root mean squared percentage error (RMSE).⁷ The MPE indicates whether forecasts are consistently too high or too low, compared with actual outcomes. The RMPE is defined as $\sqrt{\frac{1}{n} \sum_{i=1}^n (A_i - B_i)^2 / B_i^2} \times 100$ where A_i is actual tax revenue, B_i is budgeted tax revenue and n is the number of years for which the summary statistic is

RESEARCH LETTER

Euromonitor data on the illicit trade in cigarettes

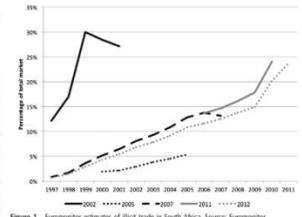


Figure 1 Euromonitor estimates of illicit trade in South Africa. Source: Euromonitor International.¹³

a similar point in 1997 but increases at a slower pace than the 2007 and 2011 estimates. Another country of concern is Mexico. Data published in the 2011 report show the illicit market increasing slowly from 1.5% in 1997 to 6.1% in 2010 (Figure 2). The 2012 report shows the illicit market starting at 9.1% in 1997 (nearly three times the magnitude of the previous estimate) and increasing to 21.8% of the total market in 2011.¹⁴ The large discrepancies in annual illicit trade estimates for South Africa and Mexico published in successive editions of the Euromonitor reports are disturbing. Although the authors did not conduct a comprehensive review of all countries, similar inconsistencies are found with regard to other countries in the Euromonitor data, including Bulgaria, Guatemala and the United Arab Emirates. Euromonitor's tendency to exaggerate illicit trade estimates in Bulgaria has been observed by at least one study.¹⁵ Unfortunately, independent or official estimates of illicit trade are not available for most countries for comparison and no known official estimates are available for

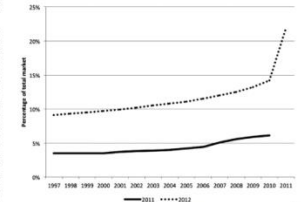


Figure 2 Euromonitor estimates of illicit trade in Mexico. Source: Euromonitor International.¹⁴

Undermining Government Tax Policies

Common strategies employed by the tobacco industry in response to tobacco tax increases

- Stockpiling
- Changing the attributes of tobacco products or their production processes
- Lowering prices
- Over-shifting or increasing prices more than a tax increase
- Under-shifting
- Timing of price increase
- Price discrimination/price-related promotional activity

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Alcohol



- A new research area for us is alcohol policy
- This work is an attempt to translate experience on tobacco to alcohol
- Work is focused on South Africa at present
- Collaboration with World Health Organization driven by the policy objectives of national government (particularly Minister of Health)

Alcohol Research Highlights



THE ECONOMICS OF ALCOHOL USE, MISUSE AND POLICY IN SOUTH AFRICA

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This study has been commissioned
by the WHO South Africa Office

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Short report

Taxes on tobacco, alcohol and sugar sweetened beverages: Linkages and lessons learned

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ABSTRACT

Increased consumption of sugar-sweetened beverages (SSBs) has been linked to increases in obesity in both high-income and low- and middle-income countries. Tobacco and alcohol taxes have proven to be effective tools to reduce tobacco and alcohol use. Many public health advocates propose using similar taxes to reduce consumption of SSBs. South Africa is a middle-income country that is considered a leader in the area of tobacco tax policy. A case study of tobacco and alcohol taxes is used to better understand optimal tax structures for SSBs. The case study tracks aggregate data over time on taxes, prices, consumption, tax revenues, and marketing expenditures at the brand level. Tobacco and alcohol taxes are shown to be effective in reducing the demand for tobacco. Additionally, taxes on the dose of alcohol rather than the volume of the beverage may incentivize producers to reduce the volume of alcohol in beverages through the supply side. While specific taxes based on the volume of beverages are likely to reduce the demand for SSBs, policy makers should also consider taxes on alcohol and SSBs that tax the dose of the alcohol and calories in order to create supply-side incentives for producers to lower alcohol and calorie levels in existing products or promote products with lower levels of alcohol and calories.

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The use of taxation as a public health intervention to reduce the consumption of products that have negative externalities is not a new concept. Adam Smith is famously quoted in the *Wealth of Nations* in 1776 as supporting the taxation of tobacco, alcohol, and sugar since none were considered necessary for life (Smith, 1776). While the taxation of tobacco for fiscal and health purposes is now universally accepted, the use of taxes on alcohol to influence health is still in its infancy even though it is commonly used as a fiscal tool (Nugent et al., 2006). The taxation of sugar-sweetened beverages (SSBs) is rare, and where used, it is typically used for health rather than fiscal purposes. This should not be confused with excise taxes on carbonated beverages which are typically used for fiscal purposes, however, these taxes usually do not distinguish between those sweetened with nutritional or non-nutritional sweeteners.

This paper argues that while the experience of tobacco is very useful in the public policy space, the structures of taxes may need to be different when applied to alcohol and SSBs. While the experience of tobacco tends to favor specific taxes per cigarette, this paper will show that specific taxes on alcohol and SSBs may be more

effective when taxing the volume of alcohol or sugar rather than the volume of the beverage. The case study of South Africa is used throughout. Ethical approval was not required since the study used only secondary data and no human subjects were involved.

1. Tobacco

Higher taxes that result in higher prices result in lower consumption of cigarettes and smoking prevalence (IARC, 2011). A prominent example of this policy instrument is South Africa where between 1990 and 2012, real (i.e. inflation adjusted) excise taxes rose by 552% leading to a 217% increase in real prices (Fig. 1). The resultant decline in consumption amounted to 41% and 66% in aggregate and per capita terms, respectively. This coincided with a decline in adult smoking prevalence from 33% to 20% between 1993 and 2012 (Blecher, 2011). Given the growth in population during this time there are presently 4.5 million fewer smokers than there would have been had smoking prevalence in 1993 still prevailed. At the same time, annual revenue collections increased in real terms by 284%.

South Africa shows a clear fiscal benefit from increasing tobacco taxes through increased revenues, and health benefits through lower tobacco use. This is a demand-side policy in that it intends to

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For more information see
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