

Cigarette Taxation in Tanzania

Final Technical Report

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Research Problem

Tanzania has both signed and ratified the World Health Organization's Framework Convention on Tobacco Control. Yet, like many countries in sub-Saharan Africa, tobacco consumption is growing in the void of strong tobacco control policies and taxation regimes which should accompany the Framework Convention on Tobacco Control. Advocates on the ground lack the research based evidence to help them advocate to policy makers the need for stronger product regulation and taxation. Between 2002 and 2007, consumption in Tanzania rose by 20% (ERC Group, 2007) as prices remained almost constant in nominal terms and hence declining in real terms (Tobacco Merchants Association, 2008). The ERC Group predicts that consumption will rise by 46% by 2016. The impact of this increase in consumption on public health and economic development is likely to be devastating.

Taxation has proved to be the single most effective tool in reducing tobacco consumption and smoking prevalence. Taxation is even more effective in low- and middle-income countries where the impact of price increases on consumption and prevalence is greater than the developed world. Furthermore, taxation has the added benefit of adding the much needed resources to the general fiscus. Research can help show the simultaneous impact of increased taxation on reducing consumption and increasing government revenue and has been instrumental in influencing policy change in many low- and middle-income countries such as South Africa and Jamaica (Van Walbeek, 2005; Van Walbeek *et al*, 2005).

The lack of local research based evidence is a result of the lack of capacity in sub-Saharan Africa to conduct country specific research on economics of tobacco control, namely, expertise, resources and experience. Establishment of the relationship between increased tobacco taxation and reduced tobacco use plus increased government revenue, will augment current tobacco control efforts in Tanzania. The expertise and experience of the consultants from American Cancer Society working in collaboration with local researchers and advocates from the Tanzania Tobacco Control Forum serves as a model for other countries in the sub-Saharan Africa and the East African sub-region.

Objectives

Main objective:

To reduce tobacco use while increasing government revenue in Tanzania through an appropriate taxation policy.

Specific objectives:

- i) To build a model of the demand for cigarettes in Tanzania establishing the relationship between the price of cigarettes and consumption
- ii) To establish the relationship between the price of cigarettes and taxation
- iii) To use the research results to convince policy makers to raise cigarette tax to a level that will result in reduced use while increasing government revenue
- iv) To create a toolkit for the collection and analysis of data which can serve as a model for other countries in the region

Methodology

The original plan of the research was to estimate an econometric demand model in order to quantify the price and income elasticities of demand in Tanzania. The elasticities of demand would have assisted in the simulation of the impact of potential increases in taxation on indicators of tobacco use (i.e. tobacco consumption and smoking prevalence) and government revenue. The econometric demand model would have used high frequency time series data for the longest possible period similar to those used by Van Walbeek in South Africa and Jamaica (2005).

A simple demand model was to be estimated where consumption is estimated as a function of prices, income and other policy variables using time series data. Generally, the quality of data in many sub-Saharan African countries is considered poor and not easily available. Part of the purpose of this project was not only to estimate the model and apply it to policy but also to

investigate the usage of data in such a context and create a guide on which further research can be conducted in other countries in the region. However, a lack of time series price data removed the possibility of estimating such a time series model. Long series of data of key variables including tobacco consumption and income were available, however, data on prices were not available as a time series. Instead of using an original price elasticity estimate an assumed price elasticity of -0.6 was used to simulate future trends. This lies in between the -0.4 and -0.8 that the World Bank have estimated in other low- and middle-income countries (World Bank, 1999) and similar to more recent estimates by the International Agency for Research on Cancer (IARC, 2011).

Data on consumption, prices and taxation of cigarettes as well as general macroeconomic data are required as a baseline for simulations. Macroeconomic data such as income, population and consumer prices was not difficult to locate and was collected from the National Bureau of Statistics (government statistical agency in other countries) and the World Bank (World Development Indicators). Aggregate cigarette consumption data was measured through the number of packs of cigarettes consumed domestically. Data was sourced from the ERC Group, an international research firm, whose national level publications the American Cancer Society subscribes to. Data on taxes was sourced from the Tanzania Revenue Authority, Tanzania Government Budget Speech by the Minister of Finance and Economic Affairs and the Tanzania Cigarette Company Annual Reports (2007 and 2008). This was supplemented by data on total tax collections from the Tanzania Cigarette Company Annual Reports (2007 and 2008). Data on tobacco leaf production was sourced from the Economic Survey (2008) and the Industrial Sector Performance Review in Tanzania (2007). The most up-to-date data was always sourced which for most series ended between 2007 and 2009.

Price data was incredibly difficult to source. It was intended that two specific methods would be used. The Tanzania Cigarette Company provides retailers with a manufacturer's suggested retail prices (MSRP) for its products. This forms a starting point for understanding the retail prices of cigarettes. Its accuracy can be corroborated with a small survey to establish the extent to which actual retail prices mirror the MSRPs and hence whether or not some adjustments are needed. In some research researchers have used actual prices used in the national Consumer Price Index.

This will be sourced from the National Bureau of Statistic and can be used to supplement the MSRPs. However, neither of these sources were available. Instead, ERC Group data was used to provide some understanding of historical prices but local price survey was conducted to identify current prices.

The economics of tobacco control is a very broad area and some people expect to see a complete economic analysis of the tobacco industry including farming and manufacturing. Yet it is important to stress that this study only assesses price, taxation and consumption issues. One should stress the importance of two goals: raising government revenue which has productive uses in such areas as education and healthcare and reducing tobacco consumption which improves the health of the nation and reduces the state's burden of tobacco related diseases. However, one can review literature which considers the broader economic impact of tobacco farming and manufacturing to counter the arguments that the tobacco industry and some government ministries are likely to advance.

The research was written up in a detailed technical reports and a summary fact sheet – both of which are attached to this report. It describes in as lucid language as possible how the methodology was designed, how the data was collected and then used and how the analysis was completed. This report serves as a guide and a starting point for other researchers in the region to learn from the experiences in Tanzania to conduct their own similar analyses.

Project Activities

Data collection

One of the most important parts of the research was data collection. Data on import and excise duty and value added tax since 1995 were collected. Additionally, data on production, sales of raw and processed tobacco, import and export, prices and GDP were also collected. All data was collected locally by Tanzania Tobacco Control Forum staff through partnerships with staff at various government ministries and institutions as well as the Tanzania Tobacco Company. Mr. Onesmo Mbelle, Principal Economist from Ministry of Trade, Industries and Marketing,

(MTIM) and Mr. Benedict Msilanga, a researcher at the Tumbi Agricultural Research Station, Tabora Region (Tobacco Research) of the Ministry of Agriculture, Food Security and Co-operative were particularly helpful in getting the building the correct contacts and sources of data. Additionally, data was sourced from American Cancer Society subscriptions.

Country visits

Three country visits were undertaken by American Cancer Society staff in August 2009, November 2009 and May 2011. The country visits involved assisting Tanzania Tobacco Control Forum staff in understanding the data needs for the project as well as collaborating on the use of demand simulation techniques and compiling the technical report and factsheets. The final country visit was to assist the Tanzania Tobacco Control Forum in dissemination activities including a briefing to the Parliamentary committees on Social Welfare Agriculture; Livestock and Water; Finance and Economic Affairs; Land, Natural Resources and Environment; and Social Services.

Project Outputs

Research:

- A technical research report was prepared by staff at the American Cancer Society in conjunction with advocates at the Tanzania Tobacco Control Forum. This report was a thorough review of cigarette consumption and production in Tanzania and included a thorough analysis of the excise tax system. It simulated both short-run and longer-run scenarios of changes in excise tax and its impact on price, consumption, smoking prevalence, tax revenue and industry revenue, and translated the changes in consumption and smoking prevalence into lives saved. This technical report served as a base for the preparation of advocacy materials.
- A factsheet on the key outcomes from the simulations from the technical report was prepared. The single page (double sided) report is in the process of being translated into Swahili (the local language).

- A journal article is being prepared which we intend to submit to journal in fall 2011. The article uses the technical research report as a base and includes updated data which has only recently become available.
- The technical report, the factsheet and the presentation slides are attached to this report.

Capacity:

- Although the initial goal of the project was to include an economist from the University of Dar es Salaam as the principle author of the technical report and journal article the partner withdrew his support due to delays in the start of the project. However, in his absence, the Tanzania Tobacco Control Forum took on a greater role in the collection, analysis and presentation of data. This significantly increased the capacity of staff members of the forum to understand and use data for advocacy purposes.
- Staff from the Tanzania Tobacco Control Forum have significantly increased their understanding of tobacco taxation and also improved their ability to conduct future primary data collection in the area.
- The involvement of various government employees in the collection and analysis of data and commenting on the compilation of the report significantly increased the level of interest in tobacco control activities and increases the willingness to engage on tobacco control activities – both research and advocacy – in the future.

Policy and practice:

- The reception of the work by Members of Parliament was very encouraging and has created a significantly increased interest and debate about the economic impact of tobacco use in Tanzania. The interest has resulted in invitations to brief the committees and the broader Parliament again.
- The involvement of various government employees in the collection and analysis of data and commenting on the compilation of the report significantly increased the level of interest in tobacco control activities and increases the willingness to engage on tobacco control activities – both research and advocacy – in the future.
- The technical report draws a clear policy recommendation of how Tanzania could take action on tobacco taxation. Importantly, it details the strengths and weaknesses of the

current tax system and supports the government's use of a specific tax regime. However, it makes a clear indication of what tax increases Tanzania should and could pursue.

One objective of the project was to create a toolkit for the collection and analysis of data on tobacco taxation which could serve as a model for other countries in the region. Essentially, this toolkit was to serve as a guide on how to replicate this study in similar data scarce environments. Work has begun on this toolkit but limited support from partners has hampered progress on this toolkit. It is hope that the toolkit will be completed during the fall. Topics covered in the toolkit will include data sources, preparing and presenting data, running simulations and presentations of results.

Project Outcomes

Evidence from many other countries shows that increased taxation of tobacco products is the single most effective tool in the tobacco control arsenal, especially among young people and the poor. Higher taxes increase prices which encourage people to quit smoking, prevents people from starting to smoke, and discourages ex-smokers from starting again. Tanzania has amongst the lowest taxes in Africa and higher taxes are required in order to curb the spread of the tobacco epidemic in the country. Excise taxes currently comprise 14.7% of the retail price of cigarettes, far less than the World Health Organization's recommendation of 70%.

An increase in tobacco taxes by 10% more than inflation over the next five years will:

- Reduce consumption by between 8.4% and 13.1% over the next five years
- Reduce smoking prevalence by between 4.3% and 6.8% over the next five years
- Reduce the number of smokers by between 115 307 and 181 792
- Increase government revenue by between 39.9% and 47.5% over the next five years

Importantly, such tax increases will save between 40 358 and 63 627 lives. Larger tax increases would have an even larger effect and would contribute to Tanzania meeting the recommendations of the World Health Organization.

Overall Assessment and Recommendations

The main purpose of the project was to estimate the demand for tobacco in Tanzania, in order to simulate the impact of a potential taxation increase on tobacco consumption. The results of the research are being used to advocate for higher taxation on tobacco products in Tanzania, which will have considerable public health and economic gains. Apart from being useful to Tanzania, the results of this study will also serve as a model for other countries in the East African sub-region.

The major problem that was encountered was delay in finalizing the grant agreements, hence, delay in project take off. The long delay resulted in the original consultant Prof. Minja from the University of Dar es Salaam losing interest as the researchers that were earmarked for the work had moved on by the time the project began and he was not ready to recruit new ones.

Fortunately, the Tanzania Tobacco Control Forum was able to take a more active and engaging role in the data collection and research itself. Furthermore, it built important relationships with an economist from government instead. Mr. Onesmo Mbelle, Principal Economist from Ministry of Trade, Industries and Marketing, (MTIM) provided assistance in getting the right government contacts and sources of data.

Another problem that was expected and dealt with was issues around availability and quality of data. Although good data was sourced on measures including tax, price and consumption, long series of historical data was not available. This ruled out the possibility of an original estimate of the price elasticity of demand. Instead, the project was able to simulate the impact of the tax changes using an assumed price elasticity of demand which is considered realistic and acceptable by the World Health Organization, the International Agency for Research on Cancer and the World Bank. Additionally, due to the current tobacco industry campaigns, most people were not ready to co-operate and supply the required information. Hence, the process of obtaining tobacco data took longer and involved more people than earlier anticipated, some dropping out along the way, resulting in increased costs. The principal economist was thus able to do limited data analysis due to time constraint. Despite the delays and the challenges the data analysis and modeling was still conducted. This process was led by staff at the American Cancer Society

engaging staff at the Tanzania Tobacco Control Forum. The Tanzania Tobacco Control Forum played an active role in the analysis and presentation and the compilation of the technical report and the fact sheet and are doing the same on the preparation of the journal article.