A Scoping Study of Nigeria's Tobacco Market and Policy Space

Project Report:

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Partner:

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CHAPTER ONE:

Introduction

1.1 Motivation

Tobacco use and control in Nigeria and other African countries have received little attention relative to other regions like Asia and Latin America. This is due to the perceived low smoking prevalence in Africa compared to the more immediate need for interventions against infectious diseases. However, the trends are changing quickly. Economic growth rate in Sub-Saharan Africa (SSA) nearly tripled from an average of 1.7 percent in 80s and 90s to about 4.8 percent in the 2000s and 2010s, with Nigeria growing more than five-fold from 1.2 percent to 6.7 percent within the same period (World Bank, 2018). A combination of rising incomes, population growth, media-driven social trends, and targeted advertisement by the tobacco industry are the key drivers of the smoking prevalence in SSA.

Nigeria is one of the five main tobacco production hubs in Africa, with British American Tobacco Nigeria (BATN) serving both local and international markets. A total of 18.4 billion sticks of cigarettes were sold in Nigeria in 2015 (Global Data, 2015), out of which 12.2 billion sticks were produced domestically (NCS, 2015). The dismal consequence of the growing smoking prevalence and tobacco production on health, mortality as well as economic and social wellbeing is enormous. In 2015, in Nigeria, tobacco related diseases were responsible for about 17,500 deaths (about 207 men and 130 women per week) and about 250,000 cancer diagnoses (Tobacco Atlas, 2015).

It is widely recognized that tobacco use and poverty are inter-twined and their presence could mitigate recent progresses in economic development. Specifically, studies have shown that in the poorest households, especially in low-income countries, as much as 10 percent of total household expenditure is spent on tobacco, thus making money less available for other basic items such as food, education, and health care[1]. In Nigeria, economic losses in the form of medical treatments and loss of productivity from tobacco-related diseases are estimated at US$ 591 million as of year 2015, twice the amount spent on all malaria treatment interventions in 2015 (Tobacco Atlas, 2017). While smoking prevalence is lower in Nigeria than other middle-income countries, recent evidence suggests that the tobacco industry is increasingly marketing its products to women and children in rural areas in efforts to increase its market share and find new customers (National Centre for Chronic Disease Prevention and Health Promotion, 2015).

Thus, there is a need for effective tobacco control measures to minimize the use and impact of tobacco products in Nigeria. Among several tobacco control measures, the World Health Organization (WHO) considers tobacco taxation as the most effective policy tool for reducing tobacco consumption and improving public health. It also offers the additional advantage of raising substantial government revenues that can be used to fund priority investments and programs that benefit the entire population – making taxation a 'win-win' for the society.

To be effective, tobacco taxes need to be well designed and high enough to discourage consumption. Yet excise taxes on tobacco products in Nigeria are very low, the statutory ad-valorem tax rate is 20percent per unit cost of production, representing about 15.87 percent of the retail price of most consumed cigarettes in Nigeria. Hence, the Nigerian government established a new specific excise tax for tobacco products effective from June 4th, 2018. In addition to the present 20 percent ad valorem

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[1] See: http://www.globalissues.org/article/533/tobacco

excise duty charged on locally produced goods, tobacco products will now attract a specific duty of ₦20 per pack, which will rise to ₦40 and ₦58 in 2019 and 2020 respectively. However, the new policy only increases excise tax burden from 12 percent to an estimated 17 percent, implying that a larger percentage of the tax share is still levied on ad valorem base, contrary to tobacco control best practices, and is still much lower than the WHO recommended benchmark of 75 percent of retail price.

Thus, there is a need to re-design Nigeria's tobacco tax system and implement an effective tobacco tax policy. A well-designed tobacco tax system with a strong tax administration will ensure the effectiveness of high tobacco taxes in reducing tobacco use, mortality and other associated economic and social welfare impact. On-going dialogues by tobacco experts and policymakers within the Economic Community of West African States (ECOWAS) region highlight the need for intensified efforts towards cooperation in tobacco control.

In order to support ongoing efforts toward effective tobacco control interventions, there is the need for a better understanding of the economics of tobacco control including the demand and supply aspects, as well as the interactions between tobacco use, economic growth and government capacity. This scoping study of the Nigerian tobacco market addresses this by examining: i) dynamics of cigarette prices and taxes across time and regions within Nigeria; ii) fiscal and public health impact of cigarette taxation; iii) extent of political will and public support for the implementation of cigarette taxes; and iv) assesses the prospects and guidelines for earmarking revenues from cigarette taxes.

1.2 Description of Nigeria Tobacco Market - Supply Side

The Nigerian tobacco market can be considered as an oligopolistic market or in fact a near monopoly. In Nigeria, about 80 percent of consumed tobacco products are produced by three registered tobacco companies: British American Tobacco Nigeria (BATN), Leave Tobacco and Commodities Nigeria Ltd, and International Tobacco Company. According to available data from Global Data Plc, 18.4 billion cigarettes sticks were sold in 2015, of which 12.2 billion were domestically produced by the three main tobacco companies. BATN holds significant market power, accounting for 75 percent of overall domestic production – based on data from the Nigerian Customs Service. The average prices and market segments for cigarettes are presented in Table 1.1

Table 1.1: A Summary of Baseline Data on Tobacco Market Supply Side

Item	*Baseline Data*	Year	*Data Sources*
Average cigarette retail price (Domestic premium) [2]	₦248.43		
Average cigarette retail price (Domestic mid-priced)	₦189.65	2018 (Jan-Feb)	Primary data – collected from 12 states across Nigeria's geopolitical zones in Nigeria
Average cigarette retail price (Domestic economy)	₦146.5		
Average cigarette retail price (Imported segment)	₦204.17		

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[2] The average retail price of cigarettes from our survey corroborates with the WHO estimates of retail prices in Nigeria, as well as estimates from the Ministry of Finance

Average cigarette retail price (Illicit segment)[3]	₦100		
Domestic market share	66 percent		NCS, *GlobalData Plc.*, World Customs Journal, and authors' computation
Imported market share	24 percent	2015	
Illicit market share	10 percent		
Average Retail Price (Weighted Average)	₦196.44	2018 (Jan-Feb)	Based on Survey

1.3 Components of the Study

A. *Snapshot of Prices and Taxes on Tobacco Products*

A natural starting point for a comprehensive scoping study on tobacco consumption in Nigeria is the assessment of prices and taxation on cigarettes at the national and sub-national levels. This sub-component of the study, first, provides a detailed analysis of the price variations across cigarettes brands, time, and geopolitical regions of the country. The analysis also provides preliminary assessment of price variations driven by illicit trade for cigarettes in the country. Second, it examines taxation on cigarettes and tax share variations across sub-national levels. Third, it provides an analysis of the level of affordability (at a point in time) and changes in the affordability of cigarettes over time.

B. *Health and Fiscal Impact of Tobacco Tax Policy Change*

Nigeria is scheduled to begin a new tax regime on tobacco products by June 2018. In addition to the present 20 percent ad valorem excise duty charged on locally produced goods, tobacco products will now attract a specific duty of ₦20 per pack, which will rise to ₦40 and ₦58 in 2019 and 2020 respectively. Given government's decision to adopt tobacco taxation as part of broader tobacco control measures, this sub-component of the study examines the potential impacts of this new policy as well as other recommended changes in the cigarette tax structure and levels. Particularly, it estimates how such policy changes will impact key outcomes, especially public health and tax revenues.

C. *Understanding Political Will for Tobacco Control in the Nigerian Context*

This study component contributes to the scarce evidence on support for tobacco control measures in Nigeria by examining states that have demonstrated political will in curbing tobacco consumption. Particularly, the political will to complement tax reforms with broader initiatives in the areas of strengthening border controls and administrative capacity to enforce tobacco tax policy is assessed. This is important because weaknesses in border control and enforcement measures undermine the effectiveness of tax increases in raising public revenue and improving public health. At present, although the state houses of assembly are allowed to make state-wide laws, most states have been unable to design and implement tobacco control regulations. Presently, only 4 out of 36 states have enacted tobacco control regulations. In light of this, this component identifies what constitutes political will in Nigeria and how it is expressed by key decision makers, as well as identifies the dominant forces that reinforce and undermine the sustenance of political will in Nigeria.

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[3] We assume the average retail price of the cheapest cigarettes across regions represents the average retail price of the illicit market segment

At present, there is no earmarking of taxes from tobacco product in Nigeria. Yet, the current shortage of public funds and threats of declining health aid presents a need to re-focus on mobilizing domestic resources to minimize inequalities in access to healthcare. Indeed, earmarking revenue from tobacco taxes is gaining pre-eminence in recent fiscal debates around the world. Many developing countries are increasingly earmarking tobacco tax revenues, pointing to its feasibility in Nigeria. This section is therefore focused on providing guidelines for effectively earmarking tobacco tax revenues for tobacco control and related public health costs in Nigeria in line with best practices. This section also estimates the overall impact of earmarking on public health in Nigeria via the illicit trade effect.

1.4 Survey Sampling Approach

A primary survey of tobacco retailers and households was conducted by the Centre for the Study of the Economies of Africa (CSEA) between January and February, 2018 in 12 selected states out of 36 states in Nigeria. We adopted a stratified sampling technique in order to reflect the geopolitical composition in Nigeria. In the first stage, we purposively selected two states from each geopolitical zone: South West (Lagos, Ekiti), South South (River and Cross Rivers), South East (Anambra and Imo), North Central (Kwara and FCT), North East (Adamawa and Bauchi) North West (Kaduna and Sokoto). The states selected reflect important characteristics and their counter-factual (particularly border vs inland states), as well as presence/absence of tobacco control policies implementation (smoke-free policy enactment, and states with presence/absence of major production hub). Table 1.2 shows the key states selected vis-à-vis their counterfactual.

Table 1.2 States Selection

Regions	Border States	Inland States
North Central	Kwara	FCT Abuja*
North West	Sokoto	Kaduna**
North East	Adamawa	Bauchi
South West	Lagos**	Ekiti*
South East	*Has no border states*	Anambra and Imo
South South	Cross River	Rivers*

* describes states with smoke-free policy enactment
**describes states with smoke-free policy enactment and tobacco production hub

In the second stage, we randomly selected tobacco product retailers and households in each state using the area sampling method, which allows for random sampling from the target population in the absence of a sampling frame. The area sampling method entails dividing each state into three sub-areas. We randomly selected one urban, semi-urban and rural area in each state. Table 1.3 shows the percentage of retailers and households across urban, semi-urban, and rural areas.

Table 1.3: Percentage of Retailers and Households across Urban, Semi-Urban, Rural Areas

	Retailers	Households
Urban	40 percent	40.65 percent
Semi Urban	33.48 percent	30.16 percent
Rural	26.52 percent	29.19 percent
Total	**100 percent**	**100 percent**

At the final phase, we randomly selected retailers and households across state. We set a minimum of 15 retailers to be sampled for retailers, and 50 for households, at least 40 percent of which must be smokers. In the absence of a sampling frame, our unit of randomization is cluster/area sampled. For retailers, the survey covers 14 cigarette brands and 230 retailers across the country (Table 1.4). For households, we survey the oldest adult present in the household during the time of visitation. The surveyed households consist of smokers and non-smokers (Table 1.4). We oversampled the smokers, to draw significant sample population needed for the analysis. Overall, 832 households were surveyed.

Table 1.4: Distribution of Retailers and Households by State

Regions (Geo-political zones)	States	Smokers by Region (only manufactured cigarettes, in thousands)	State Population (million)	Households		Number of Retailers surveyed
				Smokers Surveyed	Non-smokers Surveyed	
North Central	FCT Abuja	619	3.2	37	41	22
	Kwara		3.1	36	30	15
North East	Bauchi	333	6.3	33	34	16
	Adamawa		4.1	21	29	17
North West	Sokoto	458	4.8	37	35	15
	Kaduna		8.0	40	34	21
South East	Imo	471	5.2	41	29	21
	Anambra		5.4	28	37	15
South West	Ekiti	505	3.2	27	44	27
	Lagos		12.1	32	46	24
South South	Rivers	617	7.0	37	32	17
	Cross River		3.7	40	32	20
Total				**409**	**423**	**230**

For households, we survey the oldest adult present in the household during the time of visitation. The surveyed households consist of smokers and non-smokers (Table 1.5). We oversampled the smokers, to draw a significant sample population needed for the analysis.

Table 1.5: Smokers and Non-Smokers

	Number	Percentage
Smokers	409	49.16%
Non-Smokers	423	50.84%
Total	**832**	**100 %**

1.5 Structure of the Report

The subsequent ordering of the report is presented as follows: Chapter two presents a snapshot of prices and taxes on tobacco products. Chapter three presents the health and fiscal impact of tobacco tax policy change. Chapter four presents prospects for earmarking revenue from taxes on tobacco products and public perception for tobacco tax changes; Chapter five presents analysis on the level of political will; and Chapter six concludes the report with actionable policy recommendations.

CHAPTER TWO:

Snapshot of Prices and Taxes on Tobacco Products

This section discusses the key structure of the tobacco market in Nigeria. Specifically, we explore the present price and its variability, tax share, and affordability of cigarettes nationally and across geopolitical zones.

2.1 Data and Methods

To gauge the potential for tobacco taxation in Nigeria, we assess the price variation, cigarette affordability and tax share. These indicators capture the economic environment prior to the recent upward revision of the tobacco tax in June, 2018.

To estimate the aforementioned indicators, data on price of cigarette across brands is required. Other data requirement such as expenditure level and tax level, secondary data already exists. However, the available data on prices from the National Bureau of Statistics (NBS) only cover three cigarette brands (Pall Mall, St Moritz and Rothmans). We therefore conduct a survey of retailers to address the data gap on cigarette prices (See Chapter 1.4).

2.1.1 Tobacco Tax Data

Notably, there is a data limitation when it comes to Nigeria's tobacco tax administration. Particularly, there is no publicly available official data on the ex-factory prices of cigarettes, which is the statutory tax base for the ad-valorem excise tax, across the different price segments. The present study relies on the currently available data on average producer price across all price segments (for all taxable cigarettes containing tobacco). This is provided by the Ministry of Finance as ₦60 per pack (Table 2.1).

Table 2.1: Tobacco Taxes in Nigeria (pre-June 2018 tax regime)

	Domestically Produced Cigarettes	Imported Cigarettes
Producer Price (UCA/CIF)	₦60	₦60
Excise Duty	20 % ad valorem	─
VAT	5 % of retail price	5 % of retail price
Import Levy	─	40 % of CIF
ETLS	─	0.5 % of CIF
CISS	─	1 % of CIF
Import Duty	─	20 % of CIF
Surcharge	─	7 % of import duty

Source: Federal Ministry of Finance; Nigeria Customs Service

2.1.2 Computation of Key Indicators

Price Variation

To provide a detailed analysis of the price variations across tobacco product brands (particularly cigarettes), sectors and regions in Nigeria, the Co-efficient of Variation (CV) method was used. CV is the ratio of the standard deviation to the average price. It is widely used as a measure of price variability because it is independent of the unit of measurement and allows for comparison across different brands, sectors, and regions.

Tax Share

Tax share is calculated as the percentage of retail price that goes into tax. We first calculated the total taxes applicable to cigarettes in naira denominations and then calculated, in percentage terms, how much of the retail price constitutes the taxes.

Affordability

To estimate affordability, the Relative Income Price (RIP) is used. RIP is derived by interacting consumer's income with cigarette price (Blecher & Walbeek, 2004). Specifically, RIP measures the share of per capita income required to buy a hundred packs of cigarettes. For this analysis, we use region-specific per capita expenditure instead of per capita income. The per capita expenditure data used was obtained from the Harmonized Nigeria Living Standards Survey (HNLSS) 2009/10 sourced from the NBS. To compute the per capita expenditure over the years, the median income is assumed to grow at the same pace with national growth rate. This enables us compute the annual per capita expenditure from 2010-2017. The HNLSS is used as a proxy for GDP per capita partly due to data limitations with reliable GDP figures at subnational level in Nigeria. Moreover, the HNLSS, which uses data on per capita expenditures is a better measure for computing the RIP relative to the GDP per capita because it reflects consumer's purchasing power in better precision.

2.2 Assessment of Cigarette Price Variation in Nigeria

Nigerian tobacco industry operates within an oligopolistic market structure, with BAT owning 79 percent of market brands. This limits price differentiation across brands.

However, price variations are also observed between the same brand both within and across regions, which suggests non-market factors could also contribute to the variability. For instance, cigarettes are most times sold in sticks as against packs and this could generate significant variability when aggregated into price per pack.

Price variability is important in understanding tobacco market structure and assessing where and when tobacco taxation will be more effective. Higher price gap across brands could increase the rate of substitution between brands and dampen the effectiveness of tobacco taxation. Also, tobacco industry has more leverage to absorb tax increment in an environment where prices are highly dispersed. In essence, tax increase would be more effective with less variation and allows for better policy targeting and less uncertainty in outcomes. Therefore, a natural starting point to a scoping study of tobacco market is an assessment of price variability across brands, sectors and regions.

2.2.1 Variations across brands

Table 2.2 summarizes average cigarette prices and key indicators of price variability. The average price reported by retailers in our survey indicates that Royal Standard (N141.8) and Pall Mall (N148.5) are the two cheapest brands, while Dunhill (N315.9) is the most expensive in the market. Overall, the brands in the mid-priced segment (N150-N200) are quite dominant and account for half of the surveyed brands.

The result indicates that economy brands have the highest variability. By contrast, premium brands such as Benson and Hedges, Benson Switch and Rothmans have the lowest variability. According to Global Adult Tobacco Survey (2012), these three premium brands accounts for 63.8 percent of the purchased brands of manufactured cigarettes in Nigeria.

Table 2.2: Summary of Prices across sampled cigarette brands

Brand	Frequency	Mean (₦)	Std. Dev. (₦)	Min (₦)	Max (₦)	CV (percent)	Market Segment
Pall Mall	136	148.5515	63.86407	80	400	42.99	Economy
Oris Slims	160	198.7813	32.96056	100	300	16.58	Mid-Priced
St. Moritz	94	196.7766	31.79949	100	300	16.16	Mid-Priced
London	110	186.3636	29.35788	130	300	15.75	Mid-Priced
Rothmans	216	199.2593	24.99595	120	300	12.54	Mid-Priced
Benson & Hedges	224	232.6339	34.6019	150	300	14.87	Premium
Royal Standard	45	141.8889	38.74874	100	250	27.31	Economy
Dunhill	76	315.9868	60.83869	120	500	19.25	Premium
Dorchester	96	185.2604	35.09663	90	300	18.94	Mid-Priced
Aspen	106	187.0755	33.99487	100	350	18.17	Mid-Priced
Benson Switch	29	243.2759	31.85559	185	300	13.09	Premium
Bohem	44	214.7727	46.02773	160	400	21.43	Premium
Chesterfield	72	210.8333	43.95901	140	400	20.85	Premium
Esse	18	196.6667	36.29941	170	300	18.46	Mid-Priced

Source: CSEA Tobacco Survey

Table 2.3: Summary of Prices across Market Segmentation

Brand	Number of brand	Average (₦)	Min (₦)	Max (₦)
Economy	2	146.895	80	400
Mid-Priced	7	193.746	90	350
Premuim	5	242.27	120	500

2.2.2 Price variation by retailer types and brands

Table 2.5 further dissects price data by assessing the variability across types of retailers. Most cigarettes are sold in kiosks or hawked, especially in sticks. The current law prohibits selling of cigarettes in

single sticks, but Kiosks/Hawkers are difficult to regulate and therefore continue to meet the needs of low income smokers. However, as indicated in Table 2.4, the average price is higher in Kiosks/Hawking (N209) compared to small retail shops (N201.5) and large retail shops (N199). The price gap and variation are particularly pronounced among the economy brands.

Sales of tobacco in sticks have the potential to weaken the effectiveness of tobacco control policies. Already, the mandatory warning on cigarette which is to deter smoking, is less effective when purchases are made in sticks. Sales in sticks encourage people, such as adolescents and the poor, to buy more cigarettes as sticks are much more cheaper than packs (see Nargis et al., 2015). Overall, there is a greater need for enforcement of licenses to sell tobacco, and penalties for those who are caught without license. This could be a major role of local governments that are responsible for the regulations of kiosks, hawkers and small-scale businesses in Nigeria. This will be a win-win situation for the government as additional revenue stream could be generated, while improving the welfare of the poor as well as effectiveness of tobacco control policies.

Table 2.4: Summary of Prices across Types of Retailers

Brand	Kiosks/Hawking		Small retail shop		Large retail shop	
	Avg. (₦)	Std. Dev. (₦)	Avg. (₦)	Std. Dev. (₦)	Avg. (₦)	Std. Dev. (₦)
Pall Mall	161.7	70.0	138.0	56.3	148.1	66.2
Oris Slims	203.6	31.5	193.6	34.6	199.3	31.5
St. Moritz	203.6	34.7	193.4	33.4	191.0	21.1
London	195.9	29.5	177.1	29.4	182.0	22.1
Rothmans	202.7	27.6	196.5	23.2	197.1	21.3
Benson & Hedges	242.3	35.8	227.0	33.1	220.5	28.0
Royal Standard	143.3	36.1	140.0	44.3	143.0	33.5
Dunhill	310.9	76.2	321.0	58.3	314.6	47.7
Dorchester	186.4	31.6	189.9	35.5	172.9	41.8
Aspen	190.7	33.2	183.3	27.4	185.7	51.1
Benson Switch	254.4	29.2	239.4	33.4	233.8	32.5
Bohem	225.8	55.2	211.3	42.7	197.8	21.7
Chesterfield	208.0	47.3	217.5	43.3	202.9	36.6
Esse	200.0	43.8	192.9	27.5	196.7	46.2
Average	**209.2**	**41.6**	**201.5**	**37.3**	**199.0**	**35.8**

*(*Avg. stands for average/mean price)*
Source: CSEA Tobacco Survey 2018

2.2.3   *Price variations by location*

Table 2.5 reports on price variability among rural, semi-urban and urban areas. Expectedly, CV and average prices are cheaper in the rural area, but not significantly different between semi-urban and urban areas. A notable trend in Table 2.5 is that the average prices and CV for illicit tobacco brands are similar, and in many instances cheapest, in the rural areas. Illicit cigarettes are those which are sold

in the market, without the approval of the Standard Organization of the Nigeria (SON). Three major and widely distributed illicit brand found among the surveyed brands are: Oris Slim, Bohem and Esse. This could mean that sellers of illicit brands are targeting rural areas where enforcement and checks on their activities are minimal. This draws on the point that tobacco control policies need to be strictly adhered to in order to achieve maximum gains.

Table 2.5: Summary of Prices across Areas

Brand	Rural		Semi-Urban		Urban	
	Mean (₦)	CV (%)	Mean (₦)	CV (%)	Mean (₦)	CV (%)
Pall Mall	165.8	54.1	131.6	22.7	153.7	43.9
Oris Slims	197.6	20.8	195.5	16.4	202.3	14.1
St. Moritz	207.7	22.0	201.1	16.6	192.0	13.7
London	192.7	16.9	186.3	14.8	183.2	16.0
Rothmans	196.5	13.6	198.2	13.1	201.7	11.5
Benson & Hedges	232.3	16.6	231.8	15.1	233.6	13.6
Royal Standard	155.3	29.6	130.3	23.5	140.0	26.0
Dunhill	310.0	18.3	290.7	23.2	328.3	17.0
Dorchester	184.2	22.2	179.6	13.1	190.3	19.7
Aspen	186.2	17.5	185.8	19.4	188.7	17.8
Benson Switch	231.3	12.3	258.9	9.4	239.6	15.2
Bohem	210.0	18.4	225.7	27.5	209.6	17.5
Chesterfield	211.5	18.2	223.3	23.7	202.8	18.7
Esse	190.0	12.9	207.5	29.8	195.0	15.7

Source: CSEA Tobacco Survey 2018.

2.2.4 Price variation by States

A priori expectation is that price should be lower in the Southern region, given the presence of major production hubs. However, the result slightly contradicts this expectation as average price is higher in the Southern states, compared to the Northern states. Specifically, the North Central recorded the lowest average price at ₦188.7, followed by North East (195.7), South West (₦204.5), South South (₦212.6), South East (₦213.4) and North West (₦214). Similarly, the estimated CV shows that states in the Northern region experienced lower price variability both within and between regions.

Table 2.6: Summary of Prices across Areas

Zone/State	Mean (₦)	Std. Dev. (₦)	CV (%)
North Central	**188.7**	**24.7**	**13.1**
FCT Abuja	195.3	28.2	14.4
Kwara	179.1	14.5	8.1
North East	**195.2**	**17.3**	**8.9**
Adamawa	203.7	16.4	8.0

Bauchi	186.1	13.6	7.3
North West	**214.0**	**34.3**	**16.0**
Kaduna	234.7	23.9	10.2
Sokoto	184.9	23.7	12.8
South East	**213.4**	**32.6**	**15.3**
Anambra	205.7	26.4	12.8
Imo	218.9	36.2	16.5
South South	**212.6**	**32.6**	**15.3**
Cross River	202.8	31.9	15.7
Rivers	224.1	30.4	13.6
South West	**204.5**	**31.1**	**15.2**
Ekiti	197.0	29.2	14.8
Lagos	213.0	31.5	14.8

Source: CSEA Tobacco Survey 2018.

2.2.5 Price by licit / illicit brands and zones

Table 2.7 compares the variation between licit and illicit brands across the regions and between border and inland areas. Overall, we found average price of licit brands to be higher than illicit brands by ₦2.3, but with a lower standard deviation and CV. Notably, licit brands are cheaper than illicit ones in three regions: North Central (₦187.2 vs ₦195.5), North East (₦194.3 vs ₦197.3) and South South (₦210.7 vs 217.2). Similarly, CV for illicit brands is highest in the North Central (20.5percent) and lowest in the South East (10.9percent). Another interesting observation from the Table 2.8.

Table 2.7: Summary of prices licit and illicit brands

	Licit			Illicit		
	Mean (₦)	Std. Dev. (₦)	CV (%)	Mean (₦)	Std. Dev. (₦)	CV (%)
Region						
North Central	187.2	22.9	12.2	195.5	40.0	20.5
North East	194.3	18.7	9.6	197.5	25.1	12.7
North West	215.4	36.9	17.1	206.7	31.5	15.2
South East	215.0	32.9	15.3	194.2	21.2	10.9
South South	210.7	35.2	16.7	217.2	32.8	15.1
South West	203.3	31.5	15.5	201.1	35.7	17.8
	204.32	29.68	14.4	202.03	31.05	15.4
Location						
Inland	206.2	32.9	15.9	204.2	33.1	16.2
Border	202.3	30.9	15.3	199.4	32.5	16.3

Source: CSEA Tobacco Survey 2018.

Since border states are the easiest target for smugglers, higher prices in these locations could make illicit trade more prevalent (see Table 2.8). Out of the 14 brands surveyed, we found higher average prices in border states among five brands and aggregately a difference of ₦2.5. Variation measured by CV is also lower in the border states (16.82 percent) compared to inland states (20.32percent). Overall, it is important

to recognize that illicit trade in tobacco could also extend to counterfeiting or smuggling of already manufactured cigarettes in Nigeria. This is why the introduction of modern technology such as tagging system and more robust regional collaboration have become crucial components of tobacco control measures.

Table 2.8: Summary of prices between inland and border states

Brand	Inland		Border	
	Mean (₦)	CV (percent)	Mean (₦)	CV (percent)
Pall Mall	160.55	48.18	132.41	25.20
Oris Slims	200.56	16.21	196.50	17.11
St. Moritz	197.02	14.96	196.52	17.49
London	186.69	16.31	185.83	14.99
Rothmans	201.10	13.24	197.38	11.75
Benson & Hedges	229.63	14.25	236.17	15.47
Royal Standard	147.50	31.26	138.79	24.88
Dunhill	304.18	16.69	337.41	21.33
Dorchester	180.63	20.18	189.90	17.60
Aspen	188.05	22.02	185.85	11.70
Benson Switch	236.54	9.43	248.75	15.18
Bohem	219.67	22.16	204.29	19.27
Chesterfield	211.76	21.36	210.00	20.65
Esse	203.57	18.94	172.50	2.90
Average	**204.82**	**20.37**	**202.31**	**16.82**

Source: CSEA Tobacco Survey 2018.

2.2.6   *Comparison of retailers prices and consumers' self-reported prices*

The survey also collected self-reported prices for different brands of cigarettes by the smokers in the 12 selected states. Overall, we found that consumers tend to report higher prices on average than retailers. These differences can be explained by two interconnected factors. First, the majority of smokers buy in sticks which are more expensive, while the majority of retailers provide information based on price per pack. When the price per stick for smokers is calculated as price per pack, this generates a large positive difference between self-reported and retailer prices. Second, consumer surveys cover illicit (no tax paid) purchases, while retailers surveys generally cover only legal purchases (tax paid). To the extent that illicit cigarettes are more expensive than licit ones, it means that consumers' reported prices will be higher on average than retailers' prices.

Figure 2.1 Retailer and Self-reported Prices

Source: CSEA Tobacco Survey 2018

2.2.7   *Price variation over time*

The evolution of cigarette prices is shown in Figure 2.2. This provides a context to examine the price dynamics in the tobacco market vis-à-vis the economic-wide development. The analysis focuses on only three brands for which historical data is available as obtained from NBS Survey, and were collected in CSEA survey. This covers the economy brand (Pall Mall) and mid-priced brands (St Moritz and Rothmans).

Overall, prices of cigarettes have not increased significantly over the years. For instance, the price of St Moritz increased marginally by 2.8 percent between 2012 and 2018. Also, Pall Mall and Rothmans prices rose by 3.5 percent and 11.7 percent respectively between 2015 and 2018. The average cigarette prices have changed over the years, inflation has been much higher leading to a decrease of cigarette prices in real termsih. This trend holds two possibilities regarding the structure of tobacco market in Nigeria. Firstly, given the macroeconomic shock experienced in the country over the period, the tobacco price stability could suggest that the industry is leveraging on low tax burden to prevent price fluctuation. Secondly, it could suggest that the industry prioritizes price stability in order not to perturb the market in a way that will affect demand. Regardless of which possibility plays out, the present trend suggests specific tax system will be desirable in the Nigerian context, especially if tax reform goes even further to ensure cigarette prices are indexed for inflation. This minimizes the possible channels that industry can use to mitigate price changes.

Figure 2.2: Dynamics of Cigarette Prices
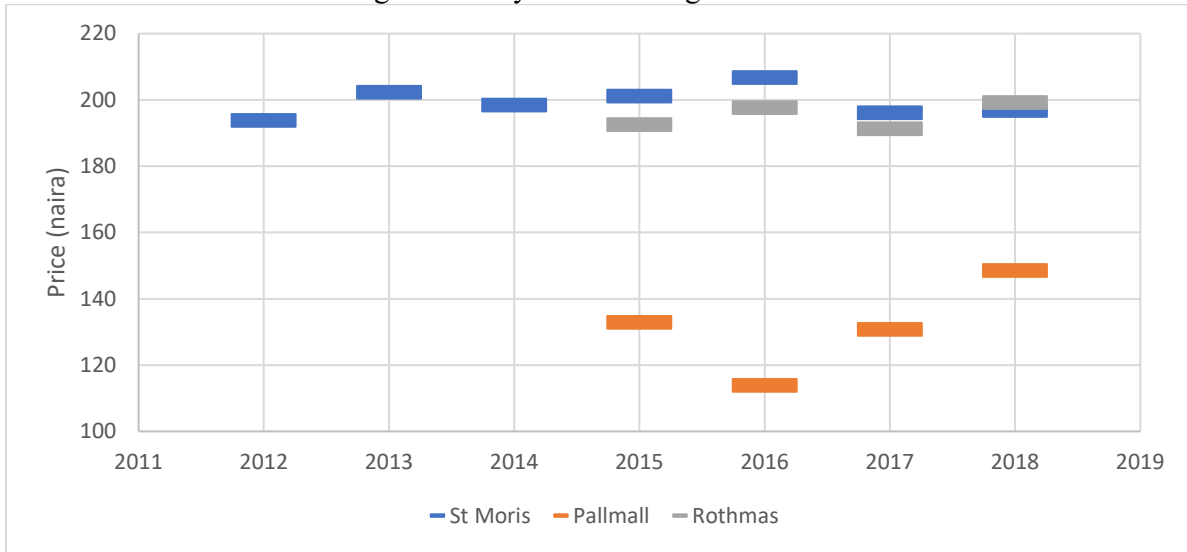
Sources: National Bureau of Statistics (NBS) 2017, CSEA Tobacco Survey 2018.

2.3 Tax Share*: Pre-June 2018 Tax Regime*

Tax share is simply the percentage of retail price that goes into tax and it is an important indicator for tracking tobacco tax policies.

Tobacco taxes have to be substantial in order to effectively impact consumption. The WHO recommends that taxes should constitute at least 75 percent of retail price of a pack of cigarettes. Before the tax reform in 2018 became effective, domestically produced cigarettes in Nigeria are taxed a cumulative ₦22.24 per pack on average – comprising 20percent ad valorem excise duty and 5percent VAT – which amounts to just about 11percent of average retail price (*Figure 2.3*). This is an indication that there was ample room for the upward review of tobacco taxes, especially given the wide disparity relative to WHO's benchmark.

Figure 2.3: Tax share in Nigeria (pre-June 2018 tax regime) versus global standards
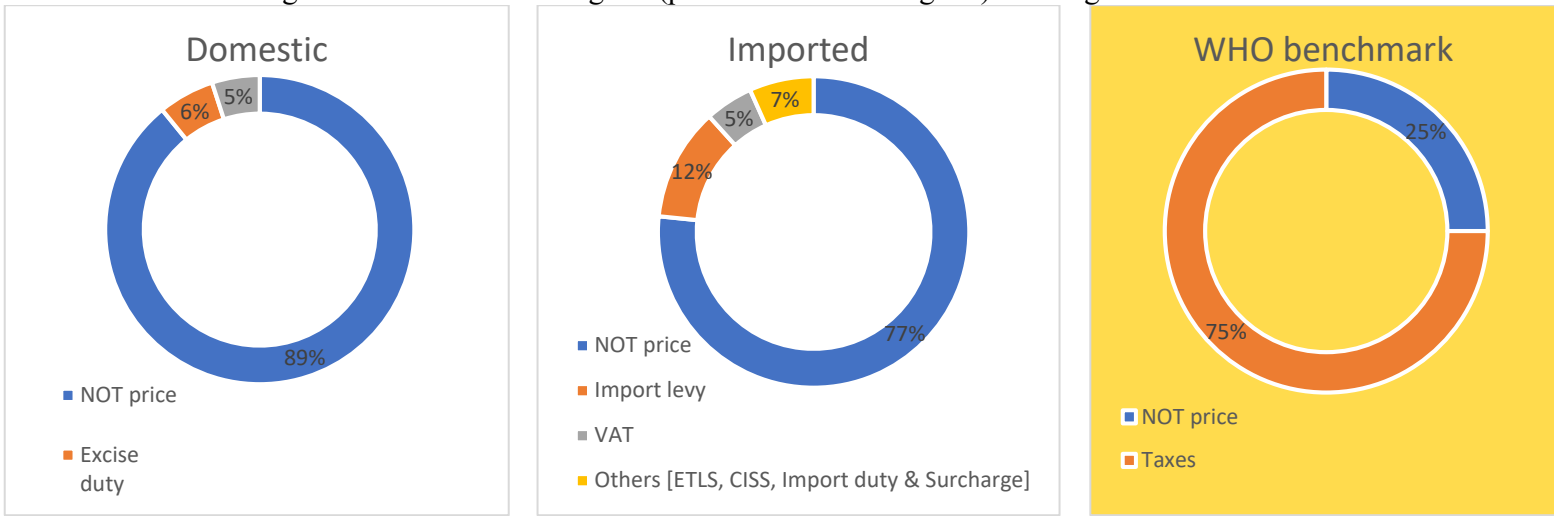

*NOT price stands for Net-of-Tax price

2.3.1   *Variation across regions*

The variation in tax share across regions captures the differences in retail prices across regions discussed above (*Figure 2.3*). We witness slight tax share (in retail price) variation across regions.

Table 2.9: Calculating Tax Share as a Percentage of Retail Price (pre-June 2018 tax regime)

Region	Excise Tax 20percent ad valorem rate of UCA - ₦60 (₦)	Average Retail Price of a Pack of 20 Cigarettes (₦)	VAT 5percent of Retail Price (₦)	Total Taxes per Pack of 20 Cigarettes (₦)	Net of Tax Price per Pack of 20 Cigarettes (₦)	Tax Share as a percent of Retail Price of a Pack of 20 Cigarettes
North Central	12	188.73	9.44	21.44	167.29	11.45
North East	12	195.18	9.76	21.76	173.42	11.20
North West	12	213.97	10.70	22.70	191.27	10.76
South East	12	213.38	10.67	22.67	190.71	10.74
South South	12	212.59	10.63	22.63	189.96	10.77
South West	12	204.53	10.23	22.23	182.30	10.98

Figure 2.4: Tax Share Variability (pre-June 2018 tax regime), across Region
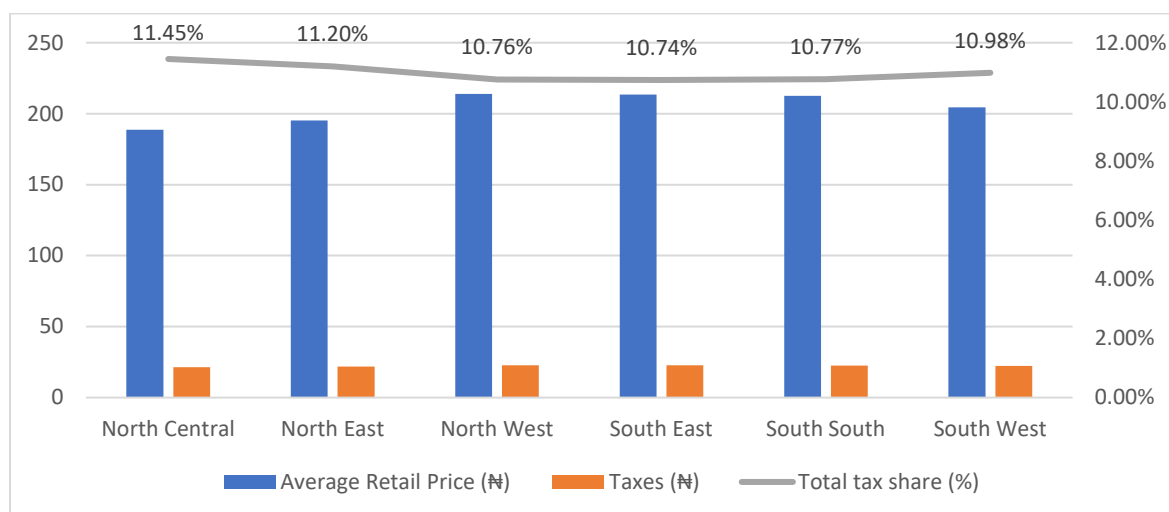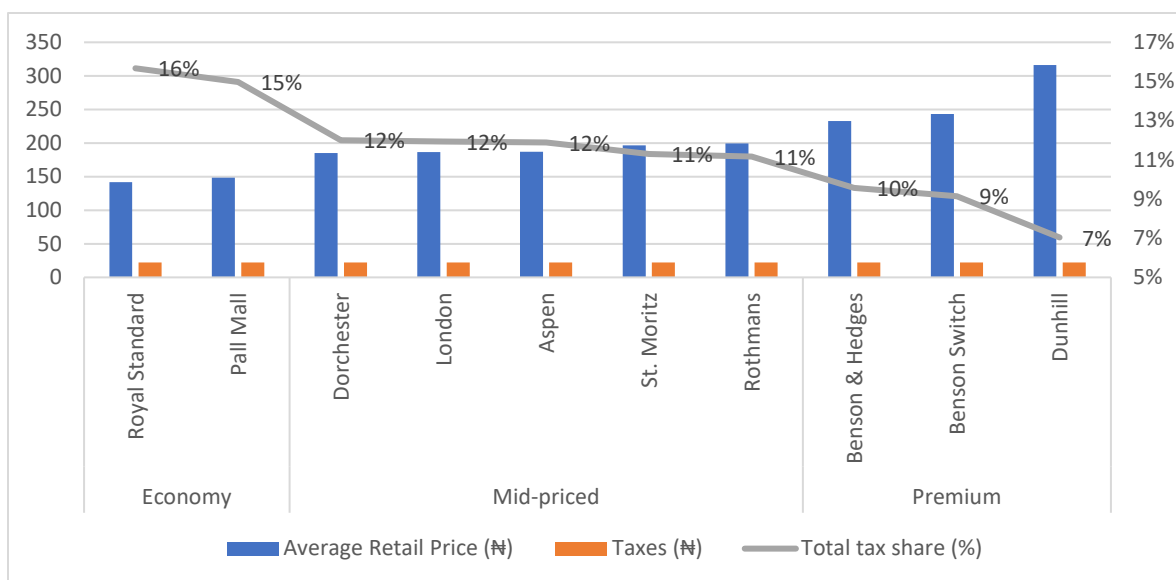

Source: CSEA Tobacco Survey 2018.

2.3.2. *Variation across brands*

There is significant variation in tax share across cigarette brands in Nigeria. Specifically, tax share is directly proportional to the average retail price of cigarette brands (*Figure 2.5*). For domestically produced cigarettes, excise duty is levied on an average unit cost analysis (UCA) for all brands, which is estimated at ₦60 per pack. Nigeria's excise tax on tobacco products is uniform across all price segments, unlike other countries that operate a tiered system such as Senegal. This implies that a

uniform excise duty of ₦12 is collected per pack irrespective of the cigarette brand. Therefore, premium brands have a lower tax share relative to the economy brands. This finding also suggests that the pre-reform tax system was substantially regressive, as the burden of tax fell on lower income groups, who are possibly more likely to consume cheaper brands.

Figure 2.5: Tax Share Variability (Domestically produced cigarettes), pre-June 2018 tax regime

Source: CSEA Tobacco Survey 2018.

2.4 Affordability

Tobacco affordability simply refers to the quantity of resources – either time or money – required to buy a pack of cigarettes. Affordability accounts for the effects of both price changes (inflation) and income changes (economic growth). For tobacco tax policies to be effective, the resulting increase in price of cigarettes should exceed the sum of real income changes and rate of inflation at any given time. This is why tracking the affordability of cigarettes is crucial for tobacco tax policy design over time.

A widely used measure of cigarette affordability, the relative income price (RIP), is derived by interacting consumer's income with cigarette price (Blecher & Walbeek, 2004). RIP measures the share of per capita income required to buy a hundred packs of cigarettes. For the analysis, we use region-specific per capita expenditure instead of per capita income.

2.4.1 Variation in affordability across regions

We find that cigarettes are most affordable in the South East relative to other regions in the country (*Table 2.10*), where it takes about 5percent of the per capita expenditure to purchase a hundred packs of the cheapest cigarettes. Conversely, cigarettes are least affordable in the North West relative to other regions, costing an average person 8.9percent of per capita expenditure.

Table 2.10: Cigarette Affordability: RIP (percent) across region and states

| North Central	North East	North West	South East	South South	South West
5.6	7.9	8.9	5.0	6.2	6.3

On average, cigarettes are less affordable in northern states relative to states in the south of the country. Specifically, it takes 7.4 percent of the median per capita expenditure in the north to purchase a hundred packs of the cheapest cigarettes, whereas it takes about 5.9 percent of the median per capita expenditure in the south. These findings mirror the disparity in affluence across the country. Despite the fact that cigarettes are cheaper in the north relative to the south, disparity in income level trumps the price difference. This further buttresses the need for policymakers to pay closer attention to cigarette affordability rather than just nominal prices in adjusting excise tax on tobacco products.

2.4.2 Variation in affordability over time

Using historic cigarette price data and growth adjusted household expenditure data sourced from NBS, we determine the trend of cigarette affordability. Due to limited availability of data, we are able to compute affordability measure going back six years for only mid-priced (St. Moritz) brand of cigarettes. Nonetheless, it serves well as a representative brand as its retail price is comparative to the average retail price of cigarettes in Nigeria. In addition, we also present affordability measure for an economy brand, Pall Mall, over a three-year period for which data is available.

A pack of mid-priced (St. Moritz) cigarettes in Nigeria has maintained RIP of just above 8 percent on average over the past few years. This indicates that changes in tobacco prices have tracked income growth relatively well over the review period. In other words, despite growth in income, the share of expenditure needed to purchase 100 packs of cigarettes has remained relatively the same.

Figure 2.6: Trends of Cigarette Affordability
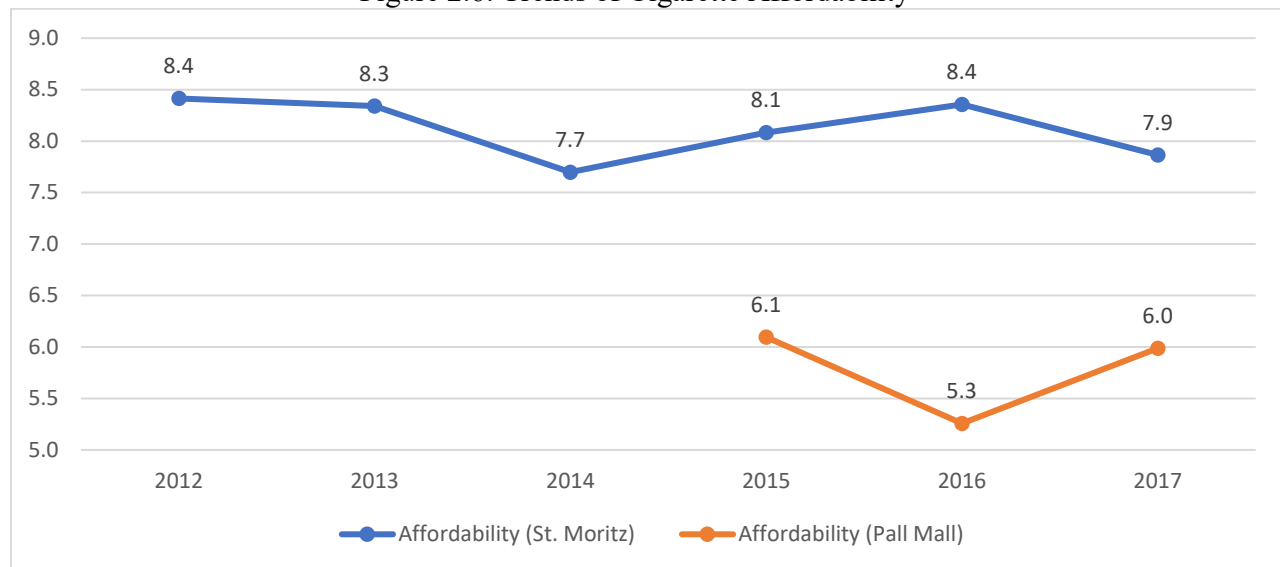
Data source: Harmonized Nigeria Living Standards Survey 2009, National Bureau of Statistics (NBS) 2017.

CHAPTER THREE:

Simulation of the Effect of Tax Increase

In June 2018, Nigeria introduced a new tax regime on tobacco products. In addition to the present 20% ad valorem excise duty charged on locally produced goods, tobacco products will now attract a specific duty of ₦20 per pack, which will rise to ₦40 and ₦58 in 2019 and 2020 respectively. Given the government's decision to adopt tobacco taxation as part of a broader tobacco control strategy, we examine the potential impacts of this new policy as well as other recommended changes in the tobacco tax structure and levels. Particularly, we measure how such policy changes will impact outcomes, especially public health (in terms of reduction in cigarette consumption level) and fiscal revenue outcomes (in terms of increase in excise duty level and structure).

3.1 Methodology

We run the simulations using the Tobacco Tax Simulation Model (TETSiM). TETSiM is an advanced spreadsheet-based simulation tool originally designed by the University of Cape Town's Economic of Tobacco Control Project and adapted to fit the Nigerian context by researchers at CSEA. More information on data, assumptions, methodology of the model can be seen in the Annex. Using TETSiM, we are able to calculate the effects of policy interventions on measured outcomes at a point in time and over a three-year period. Specifically, we measure the impact of the new changes in excise duty level and structure as well as other possible policy interventions on desired measured outcomes such as the level of consumption before and after tax changes. The measured outcomes include:

- *Cigarette consumption*: This is the quantity of cigarettes smoked annually in Nigeria. This is the main policy target of tobacco taxation, and changes in it reflect the effectiveness of government intervention.
- *Government revenue*: This includes revenue generated excise taxes as well as the import duty, VAT, CISS, ETLS, and levy on cigarettes. This will underscore whether tobacco taxation represents a win-win situation, in terms of health benefit and tax revenue.
- *Smoking prevalence*: This is the percentage of the adult population that smoke cigarettes. In line with the first outcome, this captures the health gains from the policy.
- *Gross Sales Value after Tax*: This is the gross revenue after tax earned by cigarette manufacturers and sellers. This reflects the effect of the policy on the tobacco industry, especially the supply value chain.
- *Excise Tax burden*: This is the percentage of retail price that accounts for excise taxes on cigarettes. This is important for policy targeting, as it indicates evolution of behaviour with the tobacco industry.

3.1.1 Model Set-Up

The model simulates and compares various tax reform scenarios to a baseline scenario, which is based on current market data and the current excise tax structure and level of 20% ad valorem duty on UCA. Through simulations, new equilibria emerge that capture the effects of policy changes to the baseline tax structure and level on key outcomes.

Our model includes five market segments, each of which is affected differently by government policies. The first three market segments consist of domestically produced cigarettes (premium, mid-priced, and economy brands), which are affected by changes in the excise tax policy. The fourth market segment consists of imported cigarettes, which are affected by changes in import levy. Given that no excise tax can be charged on imported cigarettes, policymakers make use of various import levies to affect the price of imported cigarettes. Finally, we also allow for an illicit trade segment of the market (based on data from

World Customs Journal, see table 3.2), which is not directly affected by a change in the tobacco tax structure and level, but rather by the licit tobacco industry's response to changes in the tobacco tax policy.

Our model estimates the effects of chosen policy interventions on key outcomes under several scenarios that seek to accommodate future realizations of uncertainties present at the outset (see Table 3.1). Specifically, scenarios capture permutations of industry response (increase, decrease, or leave industry/net-of-tax price unchanged) and economic performance (weak to robust economic growth), which are likely to influence outcomes but unknown at baseline. This serves as a sensitivity analysis to test robustness of our findings.

For the one-off one-year simulation, we have twelve possible scenarios:

Table 3 1: Income Growth and Industry Response Scenarios

Scenarios	Assumption on Income Growth	Assumption on Industry Price
SCENARIO 1 (S.1)	No income growth effect	No change in industry price
SCENARIO 2 (S.2)	No income growth effect	Industry increases price by 10%
SCENARIO 3 (S.3)	No income growth effect	Industry decreases price by 10%
SCENARIO 4 (S.4)	Low economic growth	No change in industry price
SCENARIO 5 (S.5)	Low economic growth	Industry increases price by 10%
SCENARIO 6 (S.6)	Low economic growth	Industry decreases price by 10%
SCENARIO 7 (S.7)	Medium economic growth	No change in industry price
SCENARIO 8 (S.8)	Medium economic growth	Industry increases price by 10%
SCENARIO 9 (S.9)	Medium economic growth	Industry decreases price by 10%
SCENARIO 10 (S.10)	High economic growth	No change in industry price
SCENARIO 11 (S.11)	High economic growth	Industry increases price by 10%
SCENARIO 12 (S.12)	High economic growth	Industry decreases price by 10%

For the three-year simulations, we have four scenarios:

Scenarios	Assumption on Income Growth	Assumption on Industry Price
SCENARIO 1	No income growth effect	No change in industry price
SCENARIO 2	World Bank Growth Projections	No change in industry price
SCENARIO 3	World Bank Growth Projections	Industry decreases price by 10%
SCENARIO 4	World Bank Growth Projections	Industry increases price by 10%

Scenario 1 remain the same in both the one-off and three year simulations. For conciseness, we only report the result of scenario 1 in the analysis, and present other scenarios in the Annex.

3.1.2 Key Assumptions

In order to calibrate the TETSiM, we make a set of key assumptions, supported by extant literature. These include the following:

- *Price elasticities* ($\varepsilon_p < 0$): Three price elasticities of cigarette demand for each market segments (domestic, imported, and illicit). For the licit market segments, the price elasticity of cigarette demand of -0.5 (domestic) and -0.6 (imported) were selected based on literature (Kostova et al., 2013). We assume that demand for imported cigarettes is relatively more responsive to changes in price than demand for domestic cigarettes. For the illicit market segments, the price elasticity of cigarette demand of -0.9 was selected, based on the assumption that the demand for illicit cigarettes is more responsive to price changes than the demand for licit cigarettes. The price elasticity is higher for the cheapest brand (illicit cigarettes) as these consumers cannot switch to an even cheaper brand.

- *Cross-price elasticity* ($\varepsilon_{cross-price} > 0$): We assume a cross-price elasticity of demand from licit to illicit cigarettes to be 0.5. This is based on Tauras et al. (2006) study on cross-price elasticities between premium (licit in this study) and discount (inferior illicit) cigarettes. As the price of licit cigarettes increase, consumers of the cheapest licit brands are likely to switch to buying illicit cigarettes.

- *Income elasticity* (Licit cigarettes: $\varepsilon_i > 0$; Illicit cigarettes: $\varepsilon_i < 0$): We make the assumption that illicit cigarettes are inferior goods and therefore, any increase in income will lead to a decline in illicit cigarette consumption. Income elasticity for licit cigarettes are set at 0.5 (Gallus, et al., 2006), while we make an assumption that the income elasticity for illicit cigarettes are -0.5.

- *Change in Prevalence*: Cigarette consumption can decrease in one of two ways: either fewer people smoke (a decrease in smoking prevalence), or remaining smokers consume less (a decrease in smoking intensity). Some studies in developed countries on youth smoking suggest that about 50 % of the decrease in cigarette consumption can be ascribed to a decrease in smoking prevalence, while the other 50 % of the decrease in cigarette consumption can be ascribed to a decrease in smoking intensity. Since there is no consensus for developing countries, we assume 50 % applicable to developed countries (TETSiM, 2017).

3.1.3 TETSiM description

The retail price (P) consists of two identifiable components: taxes (T) and net-of-tax price ($NOTP$). The taxes applicable to cigarettes in Nigeria are: value added tax (VAT), excise duty (E) and tariffs (L).

Currently, VAT in Nigeria is levied at 5% of retail price and charged on domestically produced and imported cigarettes. Domestically produced cigarettes also attract an excise duty of 20 % ad valorem rate on unit cost analysis (UCA), which is reported to be ₦60 in Nigeria (NCS, 2017).

In Nigeria, tariffs are charged on cost insurance and freight (CIF): $L = Import\ levy + Import\ duty + Surcharge + CISS + ETLS$.

The ₦60 is assumed to apply to the three domestic market segments (as average UCA) and the import market segment (as average CIF). This assumption will not impact the fiscal and consumption implications of a change in tobacco tax but will only impact the calculated profits of the tobacco industry (Walbeek, 2018).

The net-of-tax is a catch-all category that represents the revenue distributed among all players along the tobacco industry value chain, i.e. primary producers, manufacturers, importers, logistics companies, wholesalers and retailers.

The contribution of each of the five identified market segments to the average retail price is weighted by its share of the market: domestic premium brands (36%) domestic mid-priced brands (10%), domestic economy brands (20%), imported (24%), and illicit (10%)[4].

In order to obtain desired outputs, we input the values of the following variables: (1) the average growth in the real net-of-tax-price, (2) the price elasticity of demand, (3) the income elasticity of demand, (4) the Excise tax, VAT rate, Levy rate, Import duty rate, CISS, ETLS and (5) the tax burden (i.e. the total tax as a %age of the retail price). The base year is chosen as 2016.

Model Equations

Retail price is given as:

$$P_t = \sum_i M_{ist} \times (NOTP_{ist} + T_{ist})$$

(1)

where t is the time period, i represents the cigarette brand, s represents the market segment, M is the market share, $NOTP$ is the net-of-tax price, and T represents the taxes applicable to cigarette brands in the corresponding market segment. Note that:

$T_{ist} = VAT + E$ for the three domestic market segments,

$T_{ist} = VAT + L$ when $s =$ import market segment, and

$T_{ist} = 0$ when $s =$ illicit market segment.

At the outset, excise tax is given as: $E_{t=0} = 0.2 \times UCA_{t=0}$

$$E_t = E_{t-1} \times (1 + \frac{\Delta E}{100})$$

(2)

Similarly, a change to import levy is given as:

$$Import\ levy_t = Import\ levy_{t-1} \times (1 + \frac{\Delta Import\ levy}{100})$$

(3)

The net-of-tax price is obtained as:

$$NOTP_t = \sum_i M_{ist} \times (P_{ist} - T_{ist})$$

(4)

We use the price elasticity (ε) and income elasticity (γ) formulae to solve for cigarette consumption of licit cigarettes ($Q\ Licit_t$). $Q\ Licit_t$ subtracts change in consumption of illicit cigarettes ($\Delta Q\ Illicit_t$) from licit cigarette consumption. This is given as:

$$Q\ Licit_t = \left(Q\ Licit_{t-1} \times \left\{ \frac{\left[1 + \varepsilon\left(\frac{\Delta P}{P_t + P_{t-1}}\right)\right]}{\left[1 - \varepsilon\left(\frac{\Delta P}{P_t + P_{t-1}}\right)\right]} + \frac{\left[1 + \gamma\left(\frac{\Delta GDP}{GDP_t + GDP_{t-1}}\right)\right]}{\left[1 - \gamma\left(\frac{\Delta GDP}{GDP_t + GDP_{t-1}}\right)\right]} \right\} \right) - \Delta Q\ Illicit_t$$

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[4] Computations are based on 2015 Euro monitor report.

(5)

Where GDP is gross domestic product and is used to represent national income levels.

The consumption of illicit cigarettes is also affected by possible cross-price elasticity (φ) between illicit cigarettes and the cheapest licit cigarettes (PCL). That is, an increase in the price of licit cigarettes due to an increase in tobacco tax may result in users switching to illicit cigarette consumption. Consumption of illicit cigarettes ($Q\ Illicit_t$) is calculated as follows:

$$Q\ Illicit_t = Q\ Illicit_{t-1} \times \left\{ \frac{\left[1 + \varepsilon\left(\frac{\Delta P}{P_t + P_{t-1}}\right)\right]}{\left[1 - \varepsilon\left(\frac{\Delta P}{P_t + P_{t-1}}\right)\right]} + \frac{\left[1 + \gamma\left(\frac{\Delta GDP}{GDP_t + GDP_{t-1}}\right)\right]}{\left[1 - \gamma\left(\frac{\Delta GDP}{GDP_t + GDP_{t-1}}\right)\right]} \right. $$
$$\left. + \frac{\left[1 + \varphi\left(\frac{\Delta PCL}{PCL_t + PCL_{t-1}}\right)\right]}{\left[1 - \varphi\left(\frac{\Delta PCL}{PCL_t + PCL_{t-1}}\right)\right]} \right\}$$

(6)

Smoking prevalence (SP) is given as:

$$SP_t = SP_{t-1} \times [1 + \left(\frac{\Delta Q}{\frac{Q_t + Q_{t+1}}{2}}\right)] \times \rho$$

(7)

where ρ is the percentage of decrease in cigarette consumption that is due to decrease in smoking prevalence.

Smoking intensity (SI) is given as:

$$SI_t = \frac{Q_t}{SP_t}$$

(8)

We can easily calculate the following aggregates:

- Total government revenue:

$$TGR_t = Q_t \times \sum_s M_{st} \times T_{st}$$

(9)

- Total net-of-tax revenue:

$$NOTR_t = (NOTP_t \times Q\ licit_t) + (NOTP_t \times Q\ Illicit_t)$$

(10)

Limitation: The TETSiM does not consider population growth and inflation in the three-year simulations, but it does in the one-off simulations (with scenarios). Also, it does not allow for disaggregated analysis of changes in consumption and prices across brands. An alternative model for simulating the effect of changes in tobacco excise tax is the WHO Tobacco Tax Simulation Model (TaXSim). However, due to data limitations, we are unable to adapt this model in the Nigerian context. For instance, the lack of data on the quantity of cigarettes produced for each cigarette brand and the cost of production of each brand did not allow the researchers perform cross-price analysis in order to estimate changes in the measured outcomes

for each brand -in line with the WHO TaXSim. Nevertheless, the available data provided useful insight on the impact of changes in cigarette excise tax structure and level on public health and fiscal revenue, which can provide useful guidance for intervention to policymakers.

3.1.4 Data & Model Inputs

The data used in this model were collected from multiple sources. Cigarettes price data were based on CSEA survey of randomly selected retail outlets in 2018 (January- February) in twelve states across the six geopolitical zones (2 states per zone) in Nigeria. Cigarette brands, taxes collected on domestic brands and production data were provided by the Nigeria Customs Service (NCS). Income, inflation, and population growth data were sourced from the National Bureau of Statistics (NBS). Other secondary data include: total quantity of cigarette consumed in the country –obtained from GlobalData Plc; smoking prevalence – GATS; price elasticity of demand, income elasticity of demand, illicit market share, and percentage increase in net-of-tax – obtained from the literature (see Annex 1 for detailed data description).

A summary of key baseline data and their sources are presented in *Table 3.2*.

Table 3.2: A Summary of Key Baseline Data

Item	Baseline Data	Year	Data Sources
Average cigarette retail price (Domestic premium) [5]	₦248.43	2018 (Jan-Feb)	Primary – collected from 12 states across Nigeria's geopolitical zones in Nigeria
Average cigarette retail price (Domestic mid-priced)	₦189.65		
Average cigarette retail price (Domestic economy)	₦146.5		
Average cigarette retail price (Imported segment)	₦204.17		
Average cigarette retail price (Illicit segment)[6]	₦100		
Domestic market share	66percent	2015	NCS, GlobalData Plc., World Customs Journal, authors' computation
Imported market share	24percent		
Illicit market share	10percent		
Average Retail Price (Weighted Average)	₦196.44	2018 (Jan-Feb)	Based on Survey

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[5] The average retail price of cigarettes from our survey corroborates with the WHO estimates of retail prices in Nigeria, as well as estimates from the Ministry of Finance

[6] We assume the average retail price of the cheapest cigarettes across regions represents the average retail price of the illicit market segment

Excise tax *(based on unit cost of production - UCA)*	20percent	2018 (Jan-Feb)	Nigerian Customs Service (NCS)
VAT	5percent,	2018	NCS
Import duty + Surcharge on duty payable	20percent + 7percent = 21.4percent	2018	NCS
Levy	40percent	2018	NCS
ETLS	1percent	2018	NCS
CISS	0.5percent	2018	NCS
Adult population	106,257,431	2015	National Bureau of Statistics (NBS)
Smoking prevalence	5.6percent	2015	World Health Organization
GDP (USD)	405082.68	2016	World Bank
Slow GDP growth projection	-1.5percent	Authors' computation using historical data from World Bank	
Medium GDP growth projection	2.7percent		
High GDP growth projection	4.9percent		
Projected GDP growth rate – Year 1(2017)	1.2	World Bank	
Projected GDP growth rate – Year 2(2018)	2.4		
Projected GDP growth rate – Year 3(2019)	2.5		

3.2 Policy Interventions

For comparison, we simulate four possible policy interventions and their impact on cigarette consumption, revenues, and smoking prevalence in our TETSIM.

Table 3.3: Possible Policy Interventions

	Policy Intervention	**Description**
Policy intervention 1 (PI.1)	Keep 20percent ad valorem tax, include ₦20 specific tax, and increase import levy to 50percent of CIF per pack.	This policy intervention represents government's new policy to retain the present ad valorem tax on tobacco while also introducing a specific tax. Also, accommodates a plan increase import levy from (40percent to 50percent) for 2018.

Policy intervention 2 (PI.2)	Change to specific tax system, set the excise tax burden to ₦129 per pack, and increase import levy to 50percent of CIF per pack.	This policy intervention represents the percentage increase in retail price suggested by the majority of respondents (the mode). A majority of the respondents suggested a 63percent increase in retail price of cigarettes, which amounts to an average retail price per pack of ₦302. Also, accommodates an increase in import levy to 50percent.
Policy intervention 3 (PI.3)	Change to specific tax system, set the excise tax burden to ₦96 per pack, and increase import levy to 50percent of CIF per pack.	This policy intervention represents the average percentage increase in retail price suggested by all respondents supporting a tax increase. Respondents suggested an average increase of 45percent, which amounts to an average retail price of ₦268. Also, accommodates an increase in import levy to 50percent.
Policy intervention 4 (PI.4)	Change to specific tax system, set the excise tax burden to the equivalent of 75percent of current retail price (amounts to ₦139), and increase import levy to 50percent of CIF per pack.	This policy intervention simulates a change from ad valorem to specific tax system in line with the WHO recommended 75percent benchmark; which is equivalent to an average retail price per pack of ₦324. Also, accommodates an increase in import levy to 50percent.

3.3 Results and Analysis

We present and discuss the results from our model simulations of the four policy interventions on key measured outcomes. We present only scenario 1 (no income growth effect, no change industry price) in table 3.2 -- the results of other scenarios can be found in the Annex. Note that the impact of a 10% increase in illicit trade in line with industry's response to an increase in excise tax is accounted in the simulations and result. Table 3.4 summarizes the results of changes in tax levels and structure under different policy interventions. These results are robust to several scenarios described above regarding future economic performance and varied industry responses (See Annex). Table 3.4: Summary Results for Scenario 1

Baseline data: Pre-June 2018 (20percent ad valorem excise tax and 40percent import levy rate)

Measured Outcome	Year	Pre-June Excise Tax Structure: 20percent ad valorem	PI.1: 20percent ad valorem + ₦20 specific tax	PI.2: ₦129 specific tax	PI.3: ₦96 specific tax	PI.4: ₦139 specific tax
		40percent Import levy	50percent Import levy	50percent Import levy	50percent Import levy	50percent Import levy
Cigarette consumption *(million sticks)*	2018		891	807	830	799
	2019	920	867	800	823	796
	2020		847	793	816	793

Smoking prevalence *(percent)*	2018	5.60	5.51	5.26	5.32	5.23
	2019		5.44	5.23	5.30	5.22
	2020		5.38	5.21	5.28	5.21
Total excise tax revenue *(₦ billion)*	2018	7.3	18.5	60.7	48.2	65.4
	2019		28.3	65.0	52.0	68.5
	2020		36.8	69.5	56.0	71.9
Total government revenue *(₦ billion)*	2018	23.7	36.3	79.3	66.5	84.0
	2019		47.7	83.7	70.5	87.3
	2020		54.8	88.2	74.5	90.8
Gross sales value after tax *(₦ billion)*	2018	157.0	151.8	135.5	140.1	120.4
	2019		146.9	134.1	138.8	119.7
	2020		141.9	127.2	133.4	95.0
Excise tax burden *(percent of retail price)*	2018	4.0	9.4	22.8	19.8	23.7
	2019		13.4	24.0	20.8	24.4
	2020		16.4	24.5	21.8	25.0

Source: CSEA Tobacco Survey 2018.

Public Health Implications

We find that cigarette consumption and smoking prevalence would decrease significantly in 2018 under all four policy interventions relative to the baseline (before June 2018 reform). Specifically, **under the government's new policy intervention which entails retaining the current 20% ad valorem rate plus a ₦20 specific rate (PI.1), cigarette consumption should fall by 3.2% to 891 million in 2018 from 920 million at baseline in scenario 1**. Also, smoking prevalence falls from 5.60% at baseline to 5.51% under PI.1. These significant decreases are sustained across the remaining two periods, due to yearly increases in excise tax over the forecast period. The policy intervention in line with the WHO recommendation (PI.4) records the largest decrease in cigarette consumption (13.2%) with a larger reduction in smoking prevalence (5.25%) in scenario 1. The results of the policy interventions show similar trends under other scenarios (see Annex 2)

Fiscal Implications

We find that excise tax revenue increases significantly under all policy intervention and scenarios. Particularly, **excise tax revenue increases by 153% to ₦18.5 billion in 2018 under PI.1**. Larger increases in excise tax revenue are witnessed under PI.2, PI.3, and especially PI.4 that impose significantly higher excise tax increases in 2018, where the government will realize ₦60.7 billion, ₦48.2 billion, and ₦65.4 billion respectively. Excise taxes maintain an upward trend going into 2019 and 2020.

Total government revenue is expected to increase under all policy interventions and scenarios considered. Under the government's new policy PI.1, **total government revenue will increase by 53.2% to ₦36.3 billion in 2018, rising to ₦46.1 billion and ₦54.8 billion in 2019 and 2020 respectively**. Total government revenue rises by the highest amount under the WHO-recommended PI.4 from ₦23.7 billion at baseline to ₦84.0 billion in 2018, representing a 254.2% increase. These findings imply that there is a very wide scope for increasing excise taxes on tobacco products without adversely affecting fiscal revenues, even when cigarette consumption falls as expected.

Implication for industry's Gross sales value after tax

The gross sales value after tax or industry revenue records a marginal decline of 3.3 % from ₦157 billion at baseline to ₦151.8 billion in 2018 under PI.1 (scenario 1), which is sustained in 2019 and 2020. The biggest change in gross sales value after tax is recorded under the WHO-recommended PI.4, where industry sheds a fifth of its revenue from ₦157 billion at baseline to ₦120.4billion in 2018. However, this big drop is witnessed just in 2018, with industry posting near similar revenues in 2019 and 2020 as in 2018.

However, this scenario 1 does not represent outcomes that follow from the best response of the tobacco industry, acting to maximize profits. If the primary concern of tobacco industry is to maximize profit, it is expected that they will use their ability to set price to maintain healthy profit margins. Under the model scenarios, tobacco industry's best response will be to increase industry price. In all scenarios where industry increases price, thereby passing the burden of taxation to the consumers, we find an increase in Gross sales value after tax. Further, public health and fiscal revenue gains are enhanced under these scenarios. These results of other scenarios are reported in *Annex 2.*

Excise Tax Burden

We find that **under all policy interventions and in all scenarios considered, the excise tax burden to the consumer will at least double relative to the baseline**. Specifically, **excise tax burden increases by 5.4 %age points to 9.4 % in 2018 under the government-announced PI.1**, increasing to 13.4 % and 16.4 % in 2019 and 2020 respectively. Excise tax burden rises to the highest level under PI.4, from 4 % at baseline to 23.7% in 2018.

At present, low taxes on tobacco products (with excise tax burden at 4%) have made cigarettes very affordable in Nigeria, thus there is need for higher excise tobacco taxes levied under specific tax structures in order to increase the tax burden, reduce affordability, as well as reduce consumption of tobacco products in the country.

Since current excise tax burden is very low (at 4 %), the policy impact witnessed in the model remains minimal relative to the WHO-recommended excise tax burden. This implies that the political will for tobacco control policies has to be strong and consistent to raise excise tax burden to meet up with the WHO-recommended level of 75% of retail price. As the findings show, consistent increase in excise tax level will be required to achieve this (*Figure 3.4*).

Conclusion

In examining the potential impacts of changes in tobacco tax policy, this study models four policy interventions under different scenarios for tobacco taxation in Nigeria. Of particular interest is the first intervention, which is the new government tax policy that maintains ad valorem tax at 20% and sets specific tax at ₦20, ₦40, and ₦58 in 2018, 2019, and 2020 respectively. Such an intervention would reduce consumption of cigarettes by 3.2 % (29 million packs), while raising excise tax revenues by 153% (₦11.2 billion) and increasing the average share of taxes in the retail price of cigarettes from 4 % to 9.4 %, over a

one-year period. However, the policy intervention in line with the WHO-recommendation of an increase to tobacco excise tax by 75% of current retail price, yields larger reductions in cigarette consumption (by 13.2%) while sub substantially increasing government's excise revenue (by 793.7%) in 2018.

The analysis clearly indicates that the new tobacco taxation policy of the government can meaningfully reduce cigarette consumption and increase fiscal revenues over the three years that the tax plan covers. However, excise tax burden will remain low and cigarette consumption will remain significant despite projected drop. Therefore, the government will need to draft a follow-up tax plan that builds on the health and fiscal gains of the current one which will expire in 2020. The follow-up tax plan should push excise tax burden to the WHO-recommended standard, specifically ensuring a higher tax level levied as specific tax.

CHAPTER FOUR:

Prospects for Earmarking Revenue from Taxes on Tobacco Products

The government stands to gain about N67.7 billion additional revenue from the new tobacco taxation policy (See Chapter 3.3). There are two alternative ways to channel the resources; either by earmarking[7] them for targeted projects, or adding them to general revenue pool.

This chapter makes a case for earmarking the resulting revenue for tobacco control and related-health cost in Nigeria. We use both qualitative and quantitative data to understand public perception on tobacco taxation and earmarking; to make recommendation on earmarking the additional revenue for tobacco control and related public health cost; and to estimate the overall impact of earmarking tobacco tax revenues on public health and government in Nigeria.

The summary of our findings are as follows: First we find that the strongest driver of non-support for increased taxation is current smoking status. While gender and higher income level are significant factors for supporting increase in tobacco taxation. Second, we show that support for an increase in tobacco taxation increases substantially with earmarking especially amongst smokers. In addition, the strongest driver of support for both increase in tobacco taxation and earmarking of tobacco revenue is high income level. Smoking status (i.e. non-smokers) and gender (i.e. male) are also significant factors for supporting increase in tobacco taxation and earmarking. Third, respondents recommend earmarking tobacco tax revenues for general public health costs (as 1st and 2nd priority), tobacco-related disease (as 3rd priority), and social programs (4th priority) among others.

Fourth, we find that earmarking revenues for tobacco control (particularly in terms of border control, regulation enforcement, and supporting smoking cessation) can lead to a reduction in illicit trade market share and tobacco consumption. In all the policy interventions and scenarios, cigarette consumption will fall by a larger percentage following reduction in illicit trade market share. Particularly, policy intervention 2 (PI.2) in line with public opinion and policy intervention 4 (PI.4) inline with WHO recommendations yields the largest benefit for public health and government revenue.

Lastly, we provide six key design and implementation considerations for effectively earmarking tobacco tax revenues in Nigeria, based on country studies and best practices. They include having a clear expenditure purpose that is neither too broad nor too narrow; a strong but flexible revenue-expenditure link; a strong public financial management (PFM)and governance systems; "Soft" earmarking with option for reallocating funds to emerging priorities, and a clear medium-term time horizon for earmarking review.

4.1 Rationale for Earmarking

In recent years, there has been considerable attention to the way in which revenues from tobacco taxes may be earmarked towards funding public health programs, such as: tobacco control programs, universal health coverage, and national health insurance scheme. Earmarking has become part of the global discussion on domestic resource mobilization for health, particularly as developing countries work to achieve health system goals as well as other targets amidst declining donor support. Further,

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[7]Earmarking means separating all or a portion of total revenue—or revenue from a tax or group of taxes—and setting it aside for a designated purpose

existing research[8] have found that when some of the revenues from tobacco taxation are used to support public health programs, higher taxes on tobacco products become more politically acceptable and provide the funding needed to increase health expenditures, especially for the poor.

Earmarks can be classified according to (i) the nature of the link between the tax and the expenditure it finances, and (ii) the type of expenditure that benefits from the revenue. The link can be *strong/tight*, meaning that all or most of the tax revenue goes towards financing a particular expenditure and that this expenditure does not benefit significantly from other sources (e.g. a general fund). Alternatively, it can be *weak/loose*, meaning that only a portion of the tax revenue goes towards financing a particular expenditure, and/or the expenditure benefits significantly from other financing sources. In addition, the type of expenditure that benefits from earmarking can be *specific/narrow* (e.g., a tobacco control program) or *broad/wide* (e.g., social security or education programs).

The main advantage of earmarking tobacco tax revenues for tobacco control or health promotion is that they can be expected to ensure a continuous, regular source of funding for programs that are not subject to annual budgetary review. If managed effectively, they are expected to further reduce health burdens and offset longer-term health costs (see Box 1). Moreover, the current shortage of public funds and threats of declining health aid in low and middle-income countries (LMICs) present a need for more focus on mobilizing domestic resources to minimize inequalities in access to healthcare and fund tobacco control programmes. Indeed, earmarking revenue from tobacco taxes is gaining pre-eminence in recent fiscal debates around the world. In Mauritius for instance, a portion of tobacco tax revenues funds the treatment of health problems associated with cigarettes consumption. Other countries like Mauritania have taken additional steps to designate portions of the tax revenue that go to health expenditure. Specifically, it uses revenue derived from an additional 7percent tax on import value of cigarettes to fund research on tobacco-induced cancers. The existence of earmarked revenue from tobacco taxes in Africa point to its feasibility in countries such as Nigeria.

As common in Lower middle-income countries (LMICs), the Nigerian health care system is currently faced with a lot of challenges ranging from lack of political will to improve the health sectors, increase in communicable and non-communicable diseases, frequent strike actions, mass-exodus of medical practitioners, amongst other problems. However, the driving force of these challenges is lack of financing. Only two countries in Africa, Rwanda and South Africa, have achieved the Abuja Declaration target of allocating 15percent of the national budget for healthcare[9]. Nigeria has one of the lowest budgetary allocation for healthcare in Africa. This budgetary constraints for health care further shrinks the funds available for tobacco control, which has received little attention despite its importance for public health. Approximately 0.028percent of the overall budget of Nigeria's Federal Ministry of Health was allocated for setting tobacco control unit in 2017. While earmarking tobacco tax revenue to specific health programmes is widely recommended especially for countries with budget constraints and poor financial management (PFM)[10], Nigeria is yet to introduce any earmarking policy.

Earmarking tobacco tax revenue for tobacco control in Nigeria would provide a higher and guaranteed flow of revenue for key tobacco control programs beyond budget allocation. Some of the key tobacco control programs include: awareness raising, health promotion and disease prevention, cessation services, economically viable alternative activities for tobacco farmers, and setting up appropriate

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[8]See: Political Economy of Tobacco Taxation: http://www.who.int/tobacco/publications/en_tfi_tob_tax_chapter4.pdf ; WHO (2012), Taxation and Innovative Health-Care Financing http://www.searo.who.int/tobacco/documents/2012-pub1.pdf ; Tobacco-Free Kids (2017), Strategic Investment of Tobacco Tax Revenue https://www.tobaccofreekids.org/assets/global/pdfs/en/strategic_investment_tobacco_tax_revenue.pdf
[9] http://www.who.int/healthsystems/publications/Abuja10.pdf
[10] Cashin C., Sparkes S, Bloom D. Earmarking for Health: From Theory to Practice. 2017. Health Financing Working Paper No.5. ISBN 978-92-4-151220-6. Geneva: World Health Organization.

structures for tobacco control.[11] Particularly, setting appropriate structures for controlling illicit trade in tobacco products would help ensure that the impact of a tobacco taxation policy leads to a larger reduction in tobacco use. Article 16 of the WHO Framework Convention on Tobacco Control (FCTC) recognizes that tobacco control measures that curb illicit trade enhances the effectiveness of tobacco tax and price policies in reducing tobacco use as well as achieving public health and revenue goals.

Box 1: A case study of the tobacco tax policy reform and earmarking in the Philippines

Overview: In the case for reform in the Philippines, the political momentum or readiness to increase excise taxes largely came from the understanding that the increased tax would be used for a defined policy priority, and would significantly increase both government revenue. Both government revenue and what?

Earmarking Scheme: More than 85% of incremental tax revenues go into health programmes, and 15% to alternative livelihood programmes for tobacco farmers (and economic projects in tobacco-growing provinces).

Outcomes:
- *Increase in Tobacco Tax Revenue:* In the first year of implementation of the law, the revenue from the sin tax increased from US$ 1.38 billion at the end of 2012 to US$ 2.43 billion at the end of 2013 --an increase of 77%. Total revenue from the sin tax continued to increase; by 10.3% in 2014 and 24.4% in 2015.
- *Reduction in Smoking Prevalence:* A significant reduction in smoking prevalence, from 31% in 2008 to 25.4% in 2013 - the first year of implementation of the sin tax.
- *Increase in Budget for the Health Sector:* Since the start of implementation of the law in 2013, the budget of the Department of Health increased from US$ 1.25 billion to US$ 1.89 billion in 2014 (a year-on-year increase of 57.3%) and US$ 1.91 billion in 2015 (3.9% increase). The approved budget in 2016 is US$ 2.7 billion (41.0% increase).
- *Health Insurance Coverage for the Poor:* The greatest impact of incremental revenue from the sin tax on health spending is health insurance coverage for the poorest 40% of families. Between 2012 and 2014 the sponsored programme increased Philippine Health Insurance Corporation coverage of the poor from 4.61 million members to 14.71 million members, or an increase of 219% during the 2-year period, and total membership increased from 80.92 million to 86.22 million between 2012 and 2014.

4.2 Data and Methodology

Data consists of primary and secondary data in both qualitative and quantitative forms. For the primary data, we collected quantitative data on cigarette prices and suggested tobacco tax increase, as well as qualitative data on recommendations for earmarking from individuals and key stakeholders. Key

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[11] WHO. Guideline for Implementation of Article 6 of the WHO FCTC. 2015. Retrieved from: http://www.who.int/fctc/guidelines/adopted/Guidelines_article_6.pdf Accessed 23 March 2018

stakeholders included individuals from government institutions, NGO, and multinational institutions. A total of 15 stakeholders were interviewed.

The survey sample consisted of 832 individuals, aged 18 years or more, living in urban, semi-urban and rural areas across the 6 geographical regions. Participants were classified as current cigarette smokers and non- smokers, 423 (50.84percent) are non-smokers and 409 (49.16percent) are smokers. Urban, semi-urban and rural dwellers account for 40.65percent, 30.16percent, and 29.19percent of our sample size respectively. Majority of our respondents are male (85.58percent), female respondents represent 14.42percent of our sample size. The employment status of respondent is defines as: unemployed (19.23percent), employed (28.54percent), and self-employed (52.23percent). In our sample, income status is defined using a 3-point scale (high, middle and low)[12], 67.04percent of our sample are low income earners, middle income earners represent 12.67percent, while 10.29percent are high income earners.

To gauge public support and recommendation for earmarking, respondents were requested to note their support for a potential increase in tobacco taxation, through the question "Would you support an increase in taxes on tobacco products?" to which respondents could answer either: yes, no or unsure. Support for earmarking revenue from tobacco product was assessed with two questions: (i) Respondents who support an increase in taxes on tobacco products where further asked "What will you recommend that the government should do with the revenue from tobacco tax?" to which respondents could answer either: add to total government revenue or earmark (spend on) for specific projects. (ii) Respondents who answered "No" or "Unsure" were further asked "Would you support an increase of cigarette tax if the revenue were used for a specific project or program?" to which respondents could answer either: yes or no.

All respondents who support earmarking were requested to identify and rank which programmes revenues from tobacco taxation should be spent (or earmarked). The following options were provided: (i) on tobacco control cost (e.g. regulatory, tax admin, border control); (ii) on tobacco-related diseases treatment (e.g. cessation, lung cancer); (iii) on other public health programs (such as malaria, polio etc.); (iv) social programmes for the poor households (e.g. cash transfers); (v) for programs in other sectors (e.g. environment, agriculture, education etc.). Interviews were also conducted for relevant stakeholders such as Customs, Ministry of Finance, Ministry of health, as well as Non-Governmental and multinational organisations. Key questions on institutional support for increase in tobacco taxes, support for earmarking, and specific recommendations for earmarking.

To provide recommendations for the design and implementation of an effective earmarking policy, reviews on case studies that depict best practice was carried out. Through lessons from case study and guidelines for best practice, we draw policy recommendation for earmarking tobacco taxes in Nigeria.

4.3 Public Support for Tobacco Taxation

From our sample, almost 1 in 2 respondents (55.41percent, n= 461) supported an increase in the tobacco taxation (Figure 4.1), however amongst non-smokers support reached 70percent, in contrast to only 40percent of current smokers (Figure 4.2). In addition, income level was also strongly associated with support an increase in tobacco taxation. Particularly, 47percent of unemployed,

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[12] High: monthly income of 200,000 naira and above; Middle: monthly income between 51,000 and 200,000;   Low: monthly income below 50,000.

55percent of low and middle income earners, and 69percent of high income earners support an increase in tobacco taxation. (Figure 4.3)
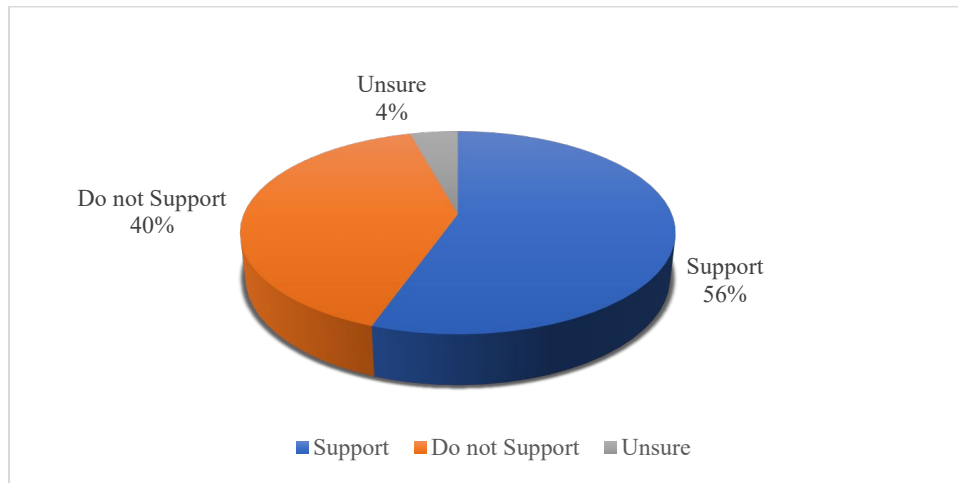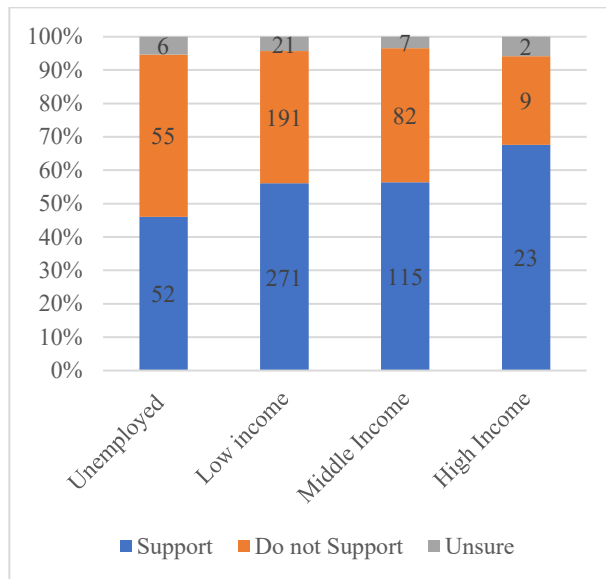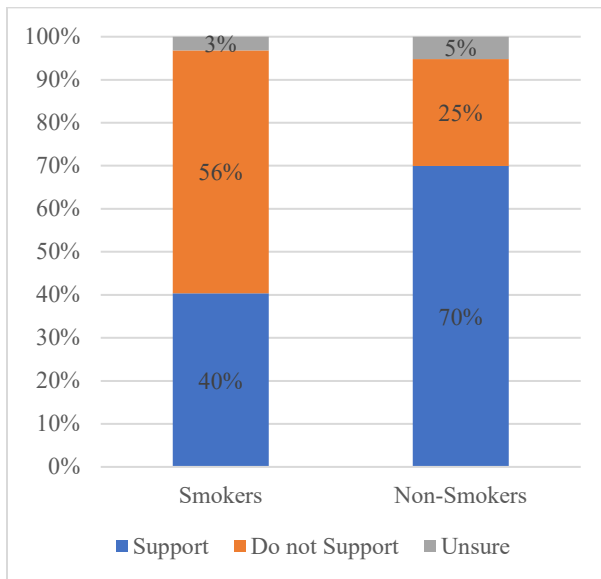
Figure 4.1: Support for Taxation

Figure 4.2: Support for Taxation: Smoking Status   *Figure 4.3: Support for Taxation: Income Level*

Source: CSEA Tobacco Survey 2018.

When examining support for increased taxes by gender, 72percent of female respondent support an increase in tobacco taxation, in contrast to 52percent of male respondent (Figure 4.4). For support for increased tobacco taxation by educational level, respondents with no education and lower educational level show less support compared to respondent with higher level of education (Figure 4.5). There appear to be no significant difference by age, except for the teenagers/young adults (18-25) who show less support (47percent), in comparison to 26-35 (60percent), 36-50 (56percent), and 50 and above (57percent) (Figure 4.6). From the survey sample, the strongest driver of non-support for increased taxation is current smoking status. While gender and higher income level are significant factors for supporting increase in tobacco taxation.

Figure 4.4: Support for Taxation: Gender
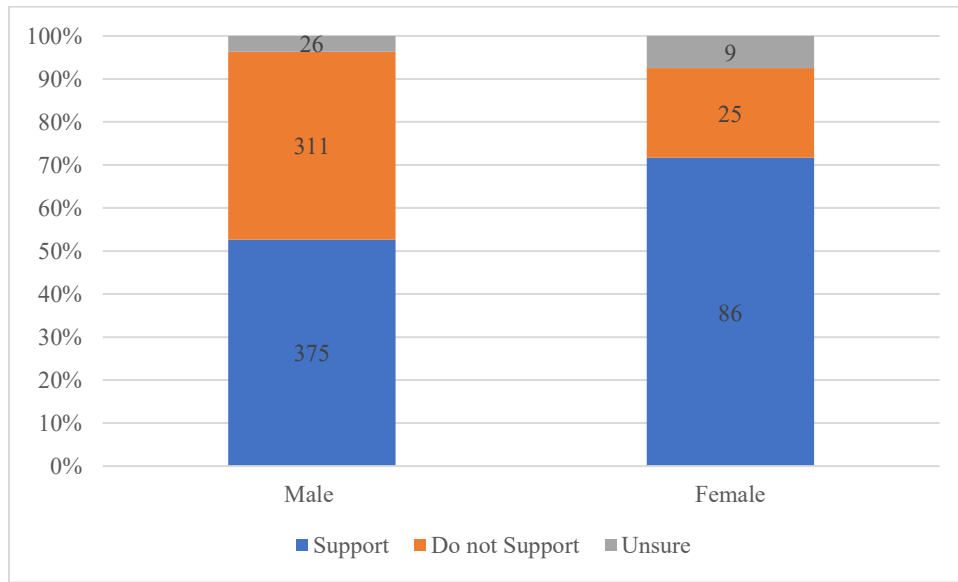
Figure 4.5: Support for Taxation: Education
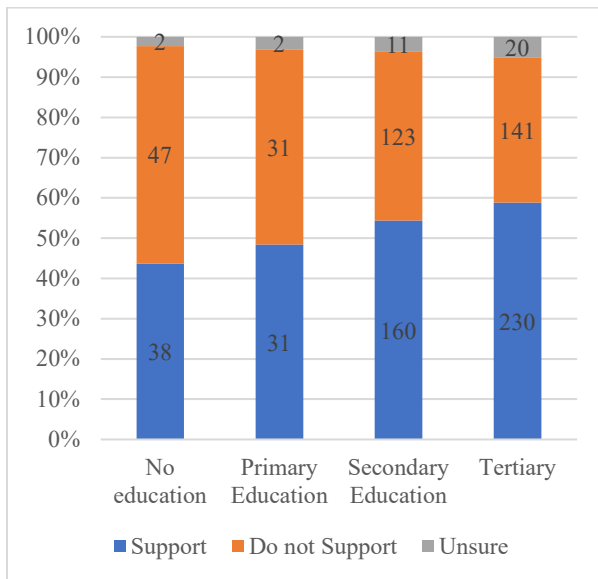
Figure 4.6: Support for Taxation: Age
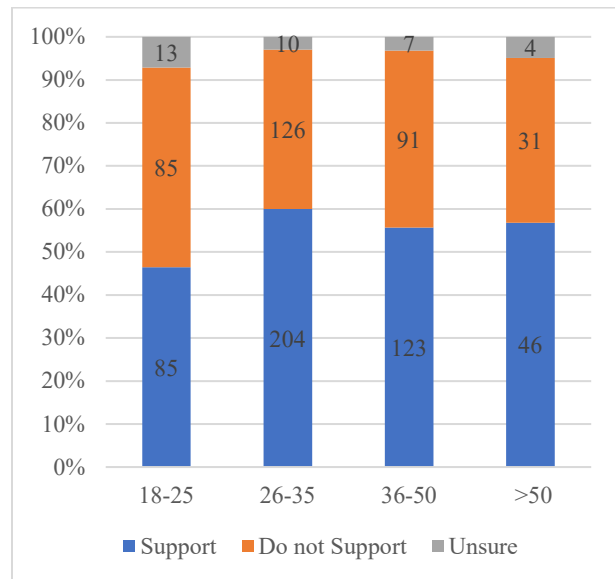
Source: CSEA Tobacco Survey 2018.

4.4 Public Support for Earmarking

Based on a survey of the Nigerian public, a total of 467 respondents (56percent) support tobacco tax increase and revenue earmarking, 127 respondents (15percent) support tobacco tax increase but not revenue earmarking, and 238 respondents (29percent) reject the increase in tobacco taxation *(Figure 4.7)*.

Figure 4.7: Support for Taxation and Earmarking of Tobacco Tax Revenue
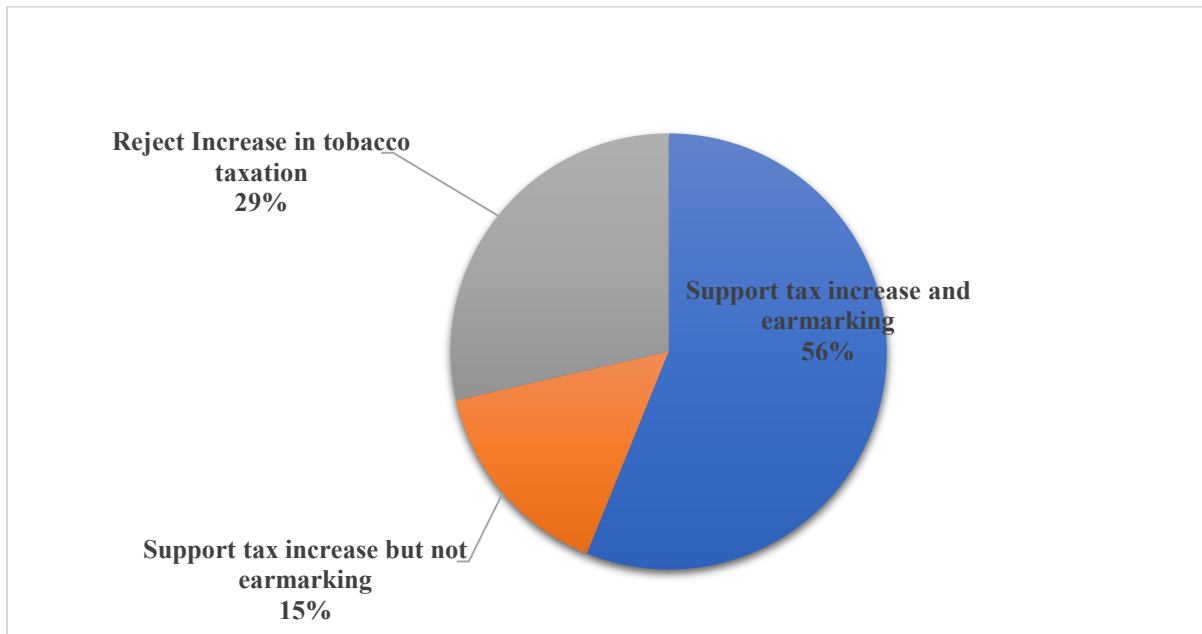
Source: CSEA Tobacco Survey 2018.

Amongst non-smokers, support for both increase in tobacco taxation and earmarking reached 62percent, while 50percent of current smokers support both interventions. Support for increase in tobacco tax without earmarking is higher amongst non-smokers (19percent) compared to current smokers (12percent). In addition, approximately 39percent of current smokers reject tobacco taxation and earmarking, in contrast to 19percent of non-smokers (*Figure 4.8*).

Figure 4.8: Support for Taxation and Earmarking: Smoking Status
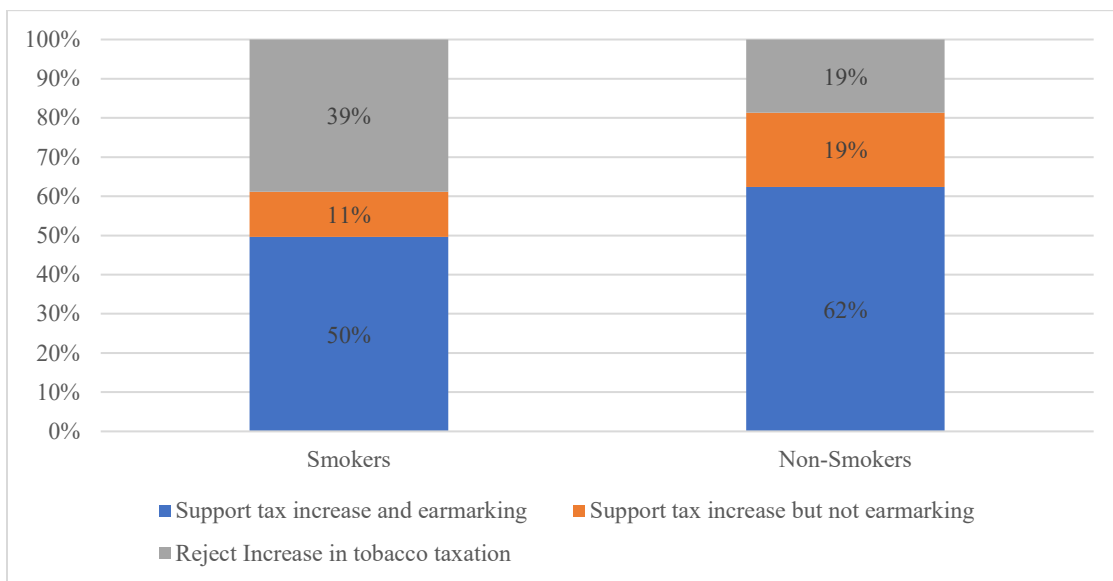
Source: CSEA Tobacco Survey 2018.

As shown in *Figure 4.9*, the level of income was also strongly associated with support for increase in tobacco taxation and earmarking. High-income earners show the highest level (82percent) of support for tobacco taxation and earmarking of tobacco revenue, this is followed by middle income (63percent), low income and the unemployed (51percent each). The unemployed (32percent) and low-income earners (33percent) constitute the highest proportion of income group that reject both an increase in tobacco taxation and earmarking.

Figure 4.9: Support for Taxation and Earmarking: Income Level
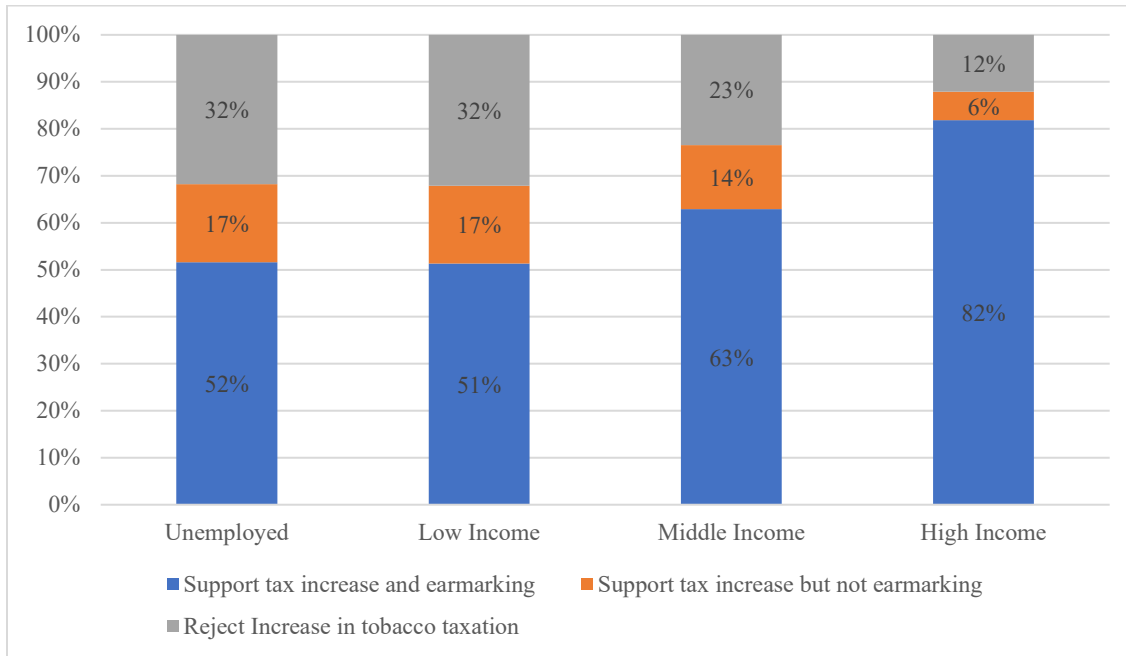
Figure 4.10: Support for Taxation and Earmarking: Gender and Educational Level
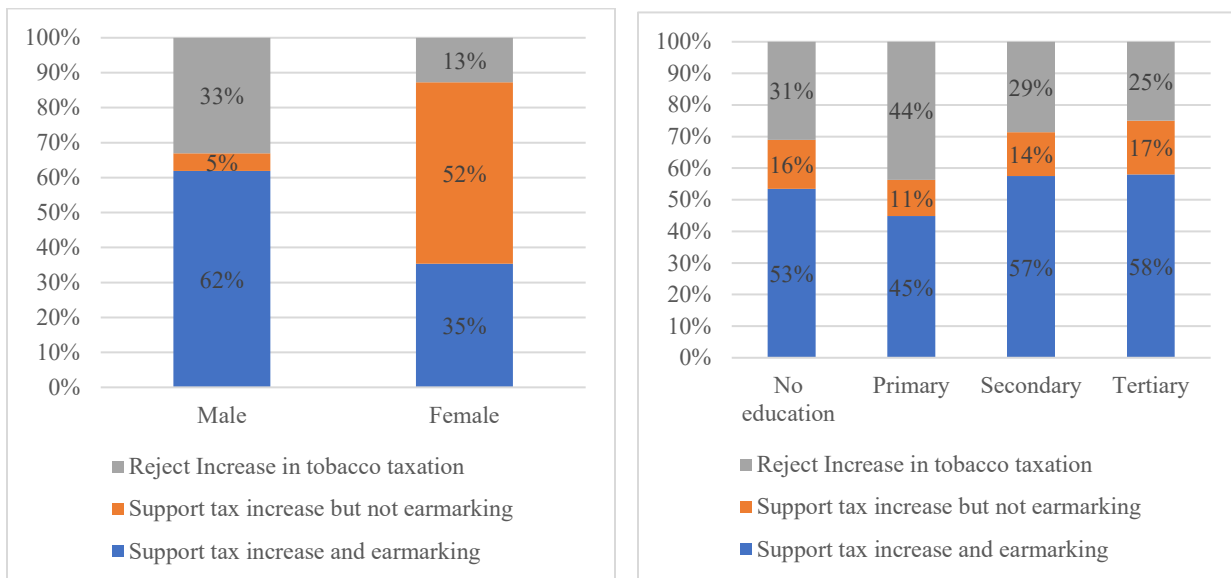
Source: CSEA Tobacco Survey 2018.

When examining support for increased taxes by gender, female respondents show more support for an increase in tobacco taxation without earmarking, while a higher percentage of male respondents support both tobacco taxation and earmarking. However, a higher proportion of male respondents when compared to females reject both interventions (Figure 4.10) For support for increased tobacco taxation by educational level, respondents with no and primary educational show less support for taxation increase than respondents with higher levels of education (secondary and tertiary) (Figure 4.10). With respect to age, the youngest respondents (18-25) show the least support for tobacco both tax increase and earmarking (i.e. 49percent), whilst amongst respondents between ages 26-35 support reached 61percent. Older respondents show similar level of support for tobacco tax increase and earmarking *(Figure 4.11).*

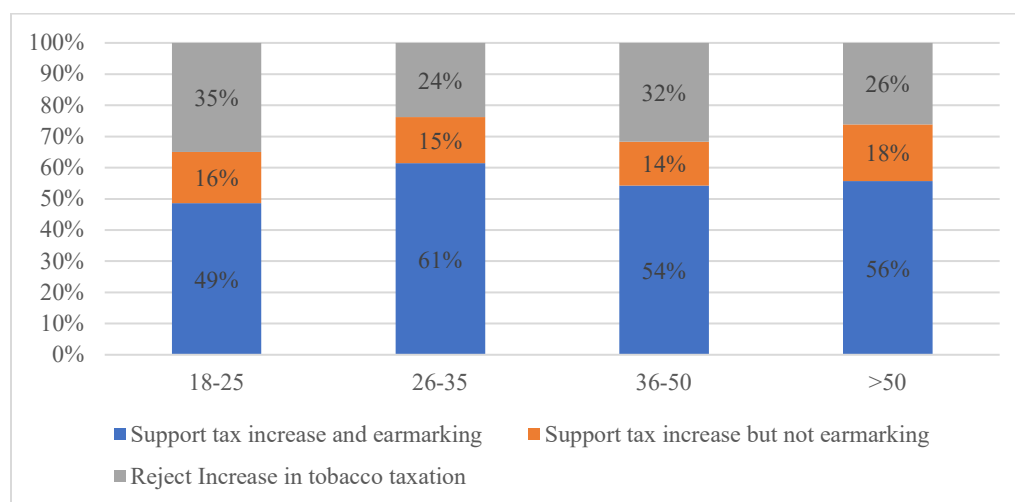*Figure 4.11: Support for Taxation and Earmarking: Age*

Source: CSEA Tobacco Survey 2018.

From the survey sample, the strongest driver of support for both increase in tobacco taxation and earmarking tobacco revenue is high income levels. Smoking status (i.e. non-smokers) and gender (i.e. male) are also significant factors for supporting increase in tobacco taxation and earmarking.

4.5 Proposed Sectors to Target Earmarked Revenue

From the survey, the most recommended intervention (1st priority) for earmarked tobacco tax revenue is public health programmes, not directly related to tobacco control. This entails earmarking tobacco tax for polio eradication programmes, provision of treated mosquito nets, promotion of health care through reduction of maternal and child mortality. Earmarking for tobacco-related diseases is the second most recommended programme (2nd priority). Some tobacco-related diseases are: cancer, lung diseases, Chronic Obstructive Pulmonary Disease (COPD), heart diseases, stroke, asthma, premature, low birth-weight babies, blindness, cataracts and age-related macular degeneration. Next recommended is earmarking for social programmes for poor households (e.g. cash transfers) and to other sectors in the economy (3rd priority). The prioritised programmes for other sectors from respondents' responses are: the internally displaced persons (IDPs), education and youth empowerment, and the provision of amenities (i.e. roads, electricity, power supply, etc.) for the citizens.

Figure 4.12: Recommendations for Earmarking Tobacco Tax Revenue by the Public
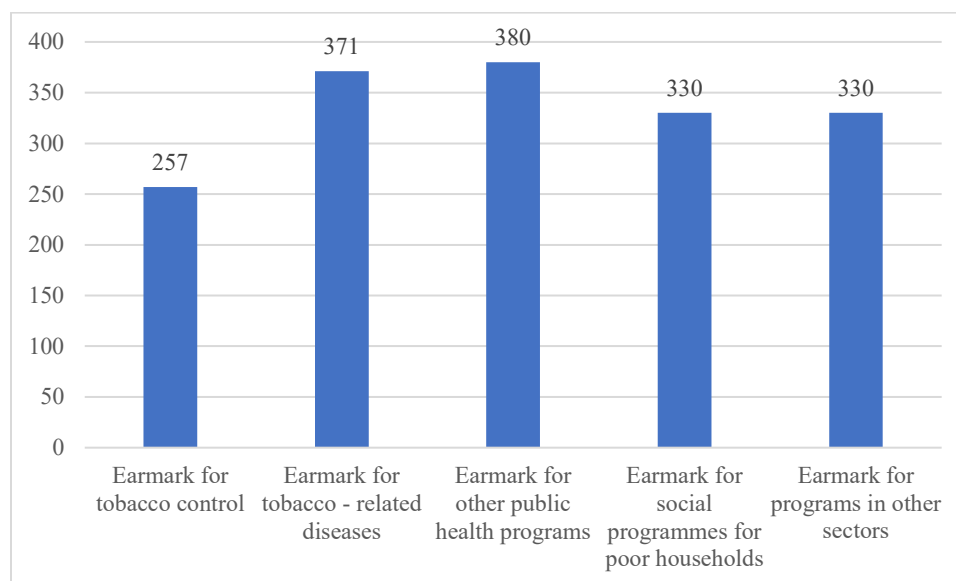
Source: CSEA Tobacco Survey 2018.

4.6 Overall Impact of Earmarking Tobacco Tax Revenue on Public Health

The main aim of any tobacco tax increase is to reduce tobacco consumption thereby improving public health. There are two pathways through which the desired effects can be achieved: a) through higher prices; b) through targeted tobacco control expenditures. While the impact of higher prices is guaranteed through tobacco taxation in line with best practices, the impact of an increase in targeted tobacco control expenditure is guaranteed through effective earmarking for tobacco control costs including illicit trade control and cessation programs.

One way to think of earmarking is to assume that the revenue is spent on curbing illicit trade. Without illicit trade control, an increase in tobacco tax (leading to a price increase) could lead to an increase in Illicit trade which would make consumers demand more illicit cigarettes, which are cheaper, and maintain their smoking habits (in line with the law of demand). However, with a strong enforcement mechanism, the likelihood that those engaging in illicit trade in tobacco products will be caught is higher and more severe administrative penalties will significantly reduce illicit trade. With less space for illicit (cheaper) cigarettes, smokers with budget constraints are likely to reduce their smoking.

To understand the impact of changes in illicit trade on tobacco (particularly, cigarette) consumption in Nigeria, the sensitivity of changes in illicit trade market share is incorporated into, and tested through, the TETSiM[13]. To do this, we carry out a sensitivity analysis using a 5-percentage point decline in illicit cigarette trade market share (the cheapest segment) which are transferred to the domestically-produced economy market segment (the 2nd cheapest segment) *(Table 4.1)*. It is expected that with tighter border controls and associated heightened risk perception for smugglers, the price of illicit cigarettes (modelled as the cheapest and inferior brands) will rise due to scarcity (See Joossens, et al. 2009). As a result of the scarcity and rise in the price of illicit brands, a proportion of those who smoke illicit brands are likely to buy more of the cheapest legal brands that are readily available, thereby

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shifting more market share to domestically-produced economy brands. Thus, holding all other variables constant in the TETSiM sensitivity analysis, we examine the results of a proportionate change in the market shares of illicit and domestically-produced economy cigarettes on cigarette consumption and excise revenue.

Table 4. 1: Key Parameters for Sensitivity Analysis

Cigarette Market Segments	Avg. retail price per cigarette pack (NGN)	Old market share (percent)	New market share (percent)
Domestically produced: Premium	248.4	35.8	35.8
Domestically produced: Mid-priced	189.7	10.2	10.2
Domestically produced: Economy	146.5	20.3	25.3
Imported	204	23.7	23.7
Illicit trade	100	10.0	5.0

We find that in all the policy interventions and scenarios, cigarette consumption will fall by a larger percentage following reduction in illicit trade market share *(Table 4.2)*. The largest decline in cigarette consumption after a reduction in illicit trade market share was policy interventions 2 (PI.2), which suggests a ₦129 cigarette excise tax burden in line with Nigerian public opinion, as well as policy intervention 4 (PI.4) which suggests a ₦139 cigarette excise tax in line with WHO recommendation, (Table 4.2). Under PI.2, the quantity of cigarettes consumed per year fell by an additional 14 million (1.8percent) in the first year and by 16 million (or 2.0percent) in third year after a 5-percentage point decline in illicit trade market. Under PI.4, cigarette consumption fell by an additional 15 million (1.9percent) in both the first and third year. The government-stipulate policy intervention 1 (PI.1), which suggests a lower tax level relative to PI.2 and PI.4 (i.e. 20percent ad valorem plus ₦20 specific taxes), recorded a decline of only 4 million (0.4percent) in the first year and 9 million (1.1percent) in the third year after the 5-percentage point reduction in illicit trade. It is important to observe that cigarette consumption declines further from year to year; hence the impact of tobacco taxation and illicit trade control is most pronounced in the long run *(Table 4.2)*.

Table 4. 2: Results of the Sensitivity Analysis – Cigarette Consumption (in million NGN)

Policy Interventions (before and after illicit trade reduction)	Baseline (₦ million)	Year 1 (₦ million)	Year 2 (₦ million)	Year 3 (₦ million)
Old PI.1: Policy intervention 1 before illicit trade adjustment	920	891	867	847
New PI.1: Policy intervention 1 after illicit trade adjustment	920	887	860	838
Percentage change (between new and old PI.1)		**-0.4%**	**-0.8%**	**-1.1%**
Old PI.2: Policy intervention 2 before illicit trade adjustment	920	807	800	793

New PI.2: Policy intervention 2 after illicit trade adjustment	920	793	785	777
Percentage change (between new and old PI.2)		**-1.7%**	**-1.9%**	**-2.0%**
Old PI.3: Policy intervention 3 before illicit trade adjustment	920	830	823	816
New PI.3: Policy intervention 3 after illicit trade adjustment	920	818	811	803
Percentage change (between new and old PI.3)		**-1.4%**	**-1.5%**	**-1.6%**
Old PI.4: Policy intervention 4 before illicit trade adjustment	920	799	796	793
New PI.4: Policy intervention 4 after illicit trade adjustment	920	784	781	778
Percentage change (between new and old PI.4)		**1.9%**	**1.9%**	**1.9%**

*Baseline represents cigarette consumption before the excise tax increase and before illicit trade adjustment
*The result represents Scenario 1 – with an assumption of no price change and no income growth

Investment in illicit trade controls yields a more pronounced win-win situation. Asides improvement in public health (through reduction cigarette consumption), government excise tax revenue also improves after illicit trade adjustments relative to before illicit trade adjustment. Excise tax revenue is projected to further increase by 8.1percent in PI.1 year 1, by 10.1percent in PI.2 year 1, and by 10.2percent in PI.4 year 1 after a 5-percentage point decline in illicit trade market (Table 4.3).

Table 4.3: Results of the Sensitivity Analysis – Excise Tax Revenue (in billion NGN)

Policy Interventions (before and after illicit trade reduction)	Baseline (₦ billion)	Year 1 (₦ billion)	Year 2 (₦ billion)	Year 3 (₦ billion)
Old PI.1: Policy intervention 1 before illicit trade adjustment	7.3	18.5	28.3	36.8
New PI.1: Policy intervention 1 after illicit trade adjustment	7.9	20.0	30.7	40.2
Percentage change (between new and old PI.1)		**8.1%**	**8.5%**	**9.2%**
Old PI.2: Policy intervention 2 before illicit trade adjustment	7.3	60.7	65.0	69.5
New PI.2: Policy intervention 2 after illicit trade adjustment	7.9	66.8	71.6	76.6
Percentage change (between new and old PI.2)		**10.1%**	**10.2%**	**10.2%**
Old PI.3: Policy intervention 3 before illicit trade adjustment	7.3	48.2	52.0	56.0
New PI.3: Policy intervention 3 after illicit trade adjustment	7.9	52.5	56.8	61.2
Percentage change (between new and old PI.3)		**8.9%**	**9.2%**	**9.3%**

Old PI.4: Policy intervention 4 before illicit trade adjustment	7.3	65.4	68.5	71.9
New PI.4: Policy intervention 4 after illicit trade adjustment	7.9	72.1	75.4	78.8
Percentage change (between new and old PI.4)		**10.2%**	**10.1%**	**9.6%**

*Baseline represents government excise tax revenue before the excise tax increase and before illicit trade adjustment. The result represents Scenario 1 – with an assumption of no price change and no income growth

Overall, the results suggest that targeted spending aimed at reducing illicit trade is vital for effective tobacco taxation. Border controls are the first line of action in reducing illicit trade market share[14]. Quality human resources (improving the ability of relevant officials to identify and penalize offenders), up-to-date technologies, organized modus operandi, as well as cooperation with other agencies at border and inland stations are important for effective illicit trade control[15]. However, the impact of earmarking also extends to other tobacco control measures. The larger picture therefore is that government can considerably improve the public health by combining tobacco taxation with earmarking.

4.7 Policy Recommendations for Earmarking Revenue from Tobacco Taxation

Several countries around the world have implemented, or are considering, earmarking as a mechanism to increase fiscal space and mobilize resources for the health sector. Earmarking is often prescribed as an appropriate option for countries where the public financial management (PFM) is weak and policy priorities are not aligned with budget allocations. Countries that earmark revenues for health typically do so with the expectation that overall funding levels for the health sector programmes will increase in absolute terms beyond what would be derived from overall government budget growth rate. At present, a minimum of 80 countries around the world are earmarking different revenue sources for health[16]. About 35 of them earmark all or a portion of revenues from tobacco taxes for health purposes in line with national priorities. For example: Philippines earmarks 80percent of incremental tobacco tax to fund Universal Health Coverage (UHC), and Vietnam earmarks 1percent of factory industry prices of all cigarettes (both domestically produced and imported) to fund tobacco control.

While earmarking tobacco taxes revenue for health purposes is not currently implemented in Nigeria, our survey findings show that there is public support for earmarking tobacco tax revenues in Nigeria. Specifically, 56.1percent of the respondents support tobacco tax increase and revenue earmarking (as seen in section 4.5). About 80percent of the respondents who support tobacco tax increase and revenue earmarking recommend earmarking tobacco tax revenues for general public health costs (as 1st and 2nd priority), tobacco-related disease (as 3rd priority), and social programs (4th priority) among others (as seen in section 4.6). Majority of experts interviewed at relevant NGOs and multilateral organizations also support tax increase and revenue earmarking especially for tobacco control costs, while a majority of key government officials support tobacco tax increase but prefer that revenue is added to national revenue pool, with the exception of the Ministry of Health. With respect to the proportion of tobacco

[14] IMF 2016, Fiscal Policy: How to Design and Enforce Tobacco Excise Taxes? How to Note No.3, November 2016. Retrieved: https://www.imf.org/external/pubs/ft/howtonotes/2016/howtonote1603.pdf

[15] Article 6 WHO FCTC: http://www.who.int/fctc/guidelines/adopted/Guidelines_article_6.pdf

[16] Cashin C., Sparkes S, Bloom Daniella (2017) Earmarking for Health: From Theory to Practice. Health Financing Working Paper No.5. ISBN 978-92-4-151220-6. Geneva: World Health Organization.

taxes to be earmarked to targeted priorities of the national government, between 25percent - 50percent of new tobacco taxes revenues are proposed for earmarking by the cross section of experts interviewed.

Apart from recommendations from members of the Nigerian public, earmarking policy requires technical basis beyond public opinion. Importantly, the way a tobacco tax earmarking policy is designed and implemented will affect how effectively they can advance or protect health sector's priority and how much rigidity and inefficiency they introduce into the budget process. Countries that have used earmarking effectively have carefully weighed certain design considerations and have been most effective when they avoid extremes. In what follows, we provide six key design and implementation considerations for effectively earmarking tobacco tax revenues in Nigeria, based on country studies and best practices:

A.   A clear expenditure purpose that is not too broad or too narrow: In line with best practices, an expenditure purpose that is not too broad or too narrow is recommended for earmarking tobacco taxes in Nigeria. In the Philippines, Ghana, South Africa, Vietnam and Estonia, expenditure purpose has been narrow enough to link funding clearly to activities and results to advance health sector priorities. but not so narrow to introduce excessive inefficiencies, rigidities or economic distortion. Philippines, Ghana and Estonia earmark for national health insurance coverage, while South Africa for HIV/AIDS response. These are clear expenditure purposes which makes the result of the spending easily tracked, yet not too rigid as spending on priorities within these programmes can be adjusted. When the expenditure purpose is too broadly defined, the potential for appropriating funds to diverse expenditures increases, and earmark is more difficult to enforce and track. For instance, Indonesia earmarks sub-national transfers for health – which is too broad. Clear expenditure purpose for earmarking is particularly important for countries where public financial management systems are weak, to minimize the potential for misappropriation of tax payers' money.

Therefore, for effectiveness, it is recommended that a portion of the tobacco taxes be earmarked to targeted units or priority programs, for instance to the tobacco control unit of the Federal Ministry of Health, and not for public health generally.

B. A strong but flexible revenue-expenditure link: A strong but flexible link between earmarked revenue and expenditure for targeted sub-units or priority programs should be pursued in line with the earmarking best practices. Studies have shown that countries that appropriate revenue-expenditure link; avoiding the extremes of having revenue completely drive expenditure or having expenditure drive revenue have more positive experiences with earmarking[17]. Having revenue completely driving expenditure leads to inefficiencies or underfunding of the programme, while having expenditure drive revenue leads to increase in the tax rate. For instance, earmarked VAT and social security contributions accounts for 90percent of revenues for National Health Insurance Scheme (NHIS) in Ghana –hence, earmarked revenues completely drive expenditure. This direct revenue-expenditure link combined with no explicit expenditure cap or other expenditure control measures has led to the deficit problem for NHIS, as revenues have not grown as rapidly as expenditures. Specifically, the reserve fund for Ghana's NHIS was depleted and the NHIS went into arrears, as a result the Ghanaian government had to bail out the NHIS to prevent a collapse in 2015. In Estonia, the Estonia Health Insurance Fund (EHIF) expenditure has been completely driving the pay roll tax revenue proportions earmarked for EHIF. Hence, when revenue from payroll tax contributions became insufficient to cover expense in 2013, policy-makers began working to broaden the revenue base to address the structural deficit.

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[17] Cashin C., Sparkes S, Bloom Daniella (2017). Earmarking for Health: From Theory to Practice. Health Financing Working Paper No.5. ISBN 978-92-4-151220-6. Geneva: World Health Organization.

Therefore, earmarking tobacco taxes in Nigeria should be designed in such a way that expenditure in the targeted unit or program is not completely dependent on the earmarked tobacco tax revenues, and that earmarked revenue is not completely driven by expenditure costs. The earmarked revenue should not be the only source of revenue for, e.g. the tobacco control unit. Budgetary allocations to the unit should also grow alongside the overall budget of the public health sector. More so, the rate of increase in expenditure of, say the tobacco control unit, should not be the main determining factor in the tobacco tax rate levied on tax payers.

C. "Soft" Earmarking with option for reallocating funds to emerging priorities: It is important for an earmarking policy to have "soft" earmark – an option for fund re-allocation, if new priorities arise. This helps eliminate potential rigidities and concerns of budgetary inefficiency. Earmarking has proven to be effective and efficient for public financial management where the earmarking policy has an option for the revenue to be reallocated to new priorities if need be. For instance, Estonia maintains a reserve fund for the Estonian Health Insurance Fund consisting of accumulated earmarked revenues, which it was able to tap from to pay for other health sector priorities as a way to help maintain overall fiscal balance in the country during the economic crisis in 2009. Ghana also maintains a reserve fund (amounting to 10percent of earmarked revenue from VAT for NHIS) which the Ministry of Health uses to fund emerging priorities. In the past years, the funds have been used to develop primary health care infrastructure, and to fund vaccines as part of the transition from Gavi, the Vaccine Alliance support[18]. Philippines also operates a "soft" earmarking policy for its alcohol and tobacco tax revenues which allows revenues to be reallocated to other priorities but by law they must be related to health.

In essence, Nigerian policymakers should aim for a strong earmarking policy directed to a specific unit or program but with a reserve fund that allow funds to be reallocated to new priorities as they arise within the sector[19]. For instance, having an earmarking policy for expenditure of the tobacco control unit, with a reserve fund that allows funds to be reallocated to new priorities within the health sector as they arise.

D. Strong public financial management (PFM)and governance systems: The time it takes for earmarked funds to flow to the expenditure purpose and whether the funds will be used in line with the earmarking policy is largely dependent on: i) the strength and governance of the PFM systems; ii) the use of supportive mechanisms (such as extra budgetary funds); and iii) the absorptive capacity of the spending agencies. PFM and governance systems will lead to significant difficulties in monitoring expenditure compliance in line earmarking policy. The Indonesian central government, for instance, has not been able to properly monitor expenditure compliance at district levels due to the lack of specificity and direction by the central government. Particularly, there was little clarity on what the district governments are allowed to spend the allocated funds on, and there was generally limited PFM capacity to monitor and implement use of funds central level indicators only track disbursement of funds. As a result, the district governments have not always spent all of the earmarked funds allocated to them.

On the other hand, earmarked VAT revenues in Ghana are carefully managed through PFM systems up to the point of release to its National Health Insurance Fund (NHIF) – a statutory fund. Revenue flow is monitored by observing correlation between the consolidated government budget, the Ghana Revenue Authority account, and the NHIF account under the direct oversight of the controller and the Accounts General Department. An extra budgetary fund even allows for both monitoring and spending flexibility in the use of funds for strategic payment methods such as case-based payments to health

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[18] Ibid, Cashin et al (2017)
[19] P. Petit and J. Nagy (2016). How to Design and Enforce Tobacco Excise? International Monetary Fund.

care providers. These ensure that funds are effectively managed to pay health care providers delivering services under the NHIS.

Nigerian policy makers should create appropriate PFM and governance systems to effectively monitor earmarking revenue flow and expenditure and funds transfer process/timeline, as well as to ensure compliance to earmarking policy in the sector where funds are allocated. The PFM and governance systems should incorporate reporting systems at different levels to help improve transparency and accountability.

E. A clear medium-term time horizon for earmarking review: The duration of the earmarking policy – the period after which it should be reviewed and subject to re-approval – may matter for its effectiveness and to avoid rigidities and inefficiencies. Mandatory periodic reviews of earmarking may help the government reassess policy priorities, tax rates changes, and whether the expenditures are still needed to advance stated priorities. For instance, while revenue earmarks are not subject to regular review in South Africa, expenditure earmarks are subject to regular amendment and updates --with legislative earmarks subject to review each year. During review, about 80percent of expenditure earmarks are carried over in their existing form, and 20percent are revised.

However, it is important that the time period for earmarking revenue and expenditure review is not too regular to ensure efficiency and consistency. Therefore, a new tobacco tax revenue and expenditure earmarking should incorporate a timeframe for review; preferably in line with the Medium-Term Expenditure Framework (MTEF) given the need to give time for the impact of any given policies to take effect.

CHAPTER FIVE:

Understanding Political Will for Tobacco Control in the Nigerian Context

Achieving success in the implementation of tobacco control policies requires substantial political will among actors in the policy space. Political will can be verbally expressed, observed through institutional changes, or demonstrated by budgetary commitments by state actors (Shiffman 2007; Fox et al. 2011). On tobacco control, political will can also manifest in the commitment of relevant government officials to interacting with the key non-state actors and providing platforms for dialogue; engaging with the public on the implications of the potential policy change; and designing mechanisms to ensure sustainability of the policies. Despite the position of the public on tobacco use and regulations, political will is required to provide the institutional and legal framework as well as implementation capacity for tobacco control.

In view of the role of political will in tobacco control, this chapter contributes to the scarce evidence on support for tobacco control measures in Nigeria by examining states that have demonstrated political will in curbing tobacco consumption. Although the House of Assembly of sub-nationals are allowed to make state-wide laws, most states have been unable to design and implement tobacco control regulations. Presently, only 4[20] out of 36 states have enacted tobacco control regulations. Consequently, examining these states is of utmost importance in providing an understanding of the mechanisms that initiate and foster political will. The study seeks to identify what constitutes political will in Nigeria and how it is expressed by key decision makers. Furthermore, in the states that have enacted tobacco control policies, sustenance of the initial political motivation has been an issue. In Ekiti State for instance, years after the Prohibition of Smoking in Public Places Law was passed, law enforcement agents were yet to obtain copies of the legislation (NISD, 2014). In light of this, it is important to identify the dominant forces that reinforce and undermine the sustenance of political will in Nigeria in order to effectively implement tobacco control regulations.

5.1 Data and Methodology

The data was obtained from surveys conducted in four states: Lagos, Rivers, Ekiti, and Abuja. These states have been identified as states that have made some considerable progress in demonstrating political will for tobacco control, and have enacted laws against smoking in public places. For each state, structured questionnaires were administered to officials at the federal and state levels, Civil Society Organisations (CSOs) and Multilateral Development Institutions.

Organization	Ministry of Health	Ministry of Finance	Customs Service	Civil Society Organizations	Multilateral Organizations	**Total**
Frequency	4	3	2	4	1	**14**

We adopt the conceptual framework of Political Will for Anti-Corruption Reforms developed by Brinkerhoff et al (1999) to guide the data collection and analysis. The Brinkerhoff et al (1999) model was chosen because it models political will using a system-wide approach which allows for an

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[20] The four states are: Lagos, Rivers, Ekiti and Abuja.

examination of the bidirectional relationship between environmental factors and political will. Also, given that the evidence of political will is most often known after the policy reform, the framework provides the opportunity to perform an ex-ante evaluation of political will.

5.2 Political Will for Tobacco Tax Increment

We adopt the conceptual framework of Political Will for Anti-Corruption Reforms developed by Brinkerhoff et al (1999) to guide the data collection and analysis. The Brinkerhoff et al (1999) model was chosen because it models political will using a system-wide approach which allows for an examination of the bidirectional relationship between environmental factors and political will. Also, given that the evidence of political will is most often known after the policy reform, the framework provides the opportunity to perform an ex-ante evaluation of political will.

Table 5.1: Findings on Political Will Indicators for Tobacco Control in Nigeria

Indicator	Key Findings
Locus of Initiative	Externally driven by CSOs; insufficient government commitment
Extent of Analysis	Generally weak but slight improvement from non-state actors
Mobilization of Support	Inadequate collaboration within the government and between the government and CSOs
Application of Credible Sanctions	Weak application of sanctions
Continuity of Efforts	Absence of long-term focus

    (i)   Locus of Initiative

The primary state actors expected to generate the political will for changes in the tobacco control policy space is the Ministry of Health, and the Ministry of Finance for taxation policies in particular (see Tam and Walbeek, 2014). Based on our interviews with relevant policy actors, the senior officials from national and sub-national Ministries of Health and Ministries of Finance stated that they accord high priority to tobacco control policies. Furthermore, the interviews revealed that the Ministry of Health support an increase in tobacco tax in order to discourage smokers in general and under-age smokers in particular. The state Ministry of Health in Ekiti State (more specifically, the Environmental, Health and Sanitation Department) proposed an increment higher than the recent tobacco tax increment – an increase of the tobacco tax burden from 7% to between 15% and 50%. Political priority for tobacco control has been particularly demonstrated in Ekiti state where the state government enacted the State Tobacco Control Law in 2012. The state has been able to achieve smoke-free tertiary institutions and smoke-free clubs have been established to promote awareness regarding the dangers of smoking and provide support for smokers to quit.

Contrasting the statements of Health Ministry officials, evidence from document reviews show that Civil Society Organisations (CSOs) are the catalysts for tobacco control policy changes. CSOs within the tobacco control arena frequently hold policy dialogues and press briefings geared towards the implementation of tobacco control policies of international standards. To buttress the findings from document reviews, interviews with mid-level Health Ministry officials revealed that state action for

tobacco control is lacking which has an adverse effect on policy implementation. Furthermore, the interviews conducted with Civil Society Organisations (CSOs), who frequently dialogue with the government for tobacco control purposes, confirmed the stance of the mid-level Health Ministry officials as they reported that top government officials have not demonstrated sufficient commitment towards tobacco control implementation. In a similar vein, report from CSO interviews noted that the government is typically myopic and vulnerable to lobbying from the tobacco industry.

(i)   Extent of Analysis

The discussions with Health Ministry officials revealed that government has taken minimal steps towards conducting a proper analysis of tobacco control measures. The absence of Non-Communicable Diseases (NCDs) desk officers in the state Ministries of Health demonstrates the deficiency in providing information and assistance on tobacco use. The Nigerian Tobacco Control Research Group (NTCRG) has achieved some impressive strides in mobilizing a multi-disciplinary and multi-stakeholder group to provide evidence against tobacco use. However, the tobacco control research community is deficient in providing available (freely accessible on the internet) research outputs. In addition, the available research is limited in scope as the economics of tobacco control and taxation aspects have not been accorded sufficient attention. Thus tobacco control issues in Nigeria remain understudied, and there are vast opportunities for scaling up.

(ii)   Mobilization of Support

There appears to be inadequate collaboration between stakeholders within the government towards tobacco control activities. Except for the Rivers State Ministry of Health, both national and State Ministries of Health identified the 'lack of intergovernmental cooperation and coordination on tobacco control policies' as a key obstacle to the full implementation of the National Tobacco Control Act, 2015. Relevant government agencies such as the Nigeria Customs Service equally recognised the lack of intergovernmental cooperation as a barrier to the implementation of tobacco control laws. Nonetheless, the discussions with government stakeholders such as the Federal Inland Revenue Service (FIRS), the Rivers State Ministry of Health as well as the Ekiti State Ministry of Environment underscored the willingness to collaborate with multinational organisations, donors and non-governmental organisations (NGOs) to ensure the full implementation and effectiveness of tobacco control laws. The Environmental, Health and Sanitation Department of Ekiti State Ministry of Health has worked with Civil Society Organisations (CSOs) such as the New Initiative for Social Development (NISD), the Ministry of Justice and the Federal Ministry of Health to implement tobacco control policies in Ekiti state.

(iii)   Application of Credible Sanctions

The support and use of sanctions, whether positive or negative, to provide incentives that promote compliance to tobacco control policies appears to be weak within government ministries and agencies. The Environmental, Health and Sanitation Department in Ekiti State outrightly stated that the arrest of tobacco policy offenders is not encouraged by the department. This demonstrates the lack of political will in implementing the existing tobacco control policy. Sanctions contained in tobacco laws are largely symbolic in nature as tools of compliance are not implemented. Feedbacks from the interviews also indicate that there is no strong publicity of the positive outcomes of tobacco control policies to encourage compliance with the law.

(iv)   Continuity of Efforts

Consistent support from policy makers towards tobacco reform is expected to be significantly hindered due to the apparent lack of resources in government ministries and agencies. 'Lack of human and

financial resources' was ranked as the most significant obstacle to the implementation of tobacco control laws by national and state Ministries of Health. The Health Ministries stated that previously there were no budget provisions for tobacco control allocated directly to the ministry. However, in 2017, the national Health Ministry disclosed that NGN 7.5 million was designated for tobacco control (in accordance with the 2017 Appropriation Act) but only 12% of the budget has been spent so far (as of January 2018). Furthermore, some government agencies disclosed the lack of technology as a deterrent to efficiently run their operations. For instance, the Environmental, Health and Sanitation Department stated that Ekiti state does not possess the operational support and technology required for tobacco control reforms in the state. The interviews however revealed the abundance of human resources particularly in Ekiti and Rivers States Ministries of Health. In Rivers state, where there is a Tobacco Unit and Cancer Unit, there is also a Director of Public Health and Director of Special Projects that are well equipped to follow through on tobacco control initiatives.

5.3 Contextual Factors

Political will does not occur in isolation but is influenced, either positively or negatively, by a set of factors which also influence the outcome and implementation of tobacco control policy reforms. The contextual factors examined in the study have been identified both in the literature and through the stakeholder interviews as having an effect on the level of political will and the outcomes for tobacco control reforms. This section examines the state of the contextual factors, as well as the nexus between the factors and efforts towards tobacco policy changes. The five contextual factors are: 1) effective tax administration and enforcement mechanisms; 2) capacity to combat smuggling; 3) smokers and the tobacco industry; 4) civil society organisations; and 5) multilateral development institutions. Our findings are presented in Table 5.2.

Table 5.2: Findings on the Influence of the Contextual Factors in Tobacco Control within Nigeria

Indicator	Key Findings
Tax Enforcement	Demonstrated capability of effecting tax policy changes
Combat Smuggling	Ineffectual due to inadequate resources
Tobacco Industry	Dominant negative influence
Civil Society Organizations	Dominant positive influence
Multilateral Development Institutions	Passive positive influence

    (i)   Effective Tax Enforcement

To ensure that the effectiveness of tobacco tax increase is not undermined, it is imperative that the study examines the capacity and efficiency of the government agencies responsible for the collection of taxes and enforcement of tax laws. This is important because visible and effective tax enforcement will positively affect the potential of the tobacco control tax reform to raise high tax revenue. Accordingly, the stakeholder consultations revealed that the Federal Inland Revenue Service (FIRS) is willing and able to efficiently tax tobacco companies in accordance with the mandate given to the agency. The Lagos Inland Revenue Service (LIRS), the tax collection agency of Lagos state, reported

that it is in support of an increase in tobacco tax and operates on a high efficiency level which is reflected in increased tax generation in the state. The interviews with the Nigeria Customs Service revealed that the agency is capable of implementing the tobacco excise tax which, according to an official, has been effective in curbing the inflow of tobacco products into Nigeria.

(i)   Capacity to Combat Smuggling

An upsurge in smuggling of tobacco products into the country is expected to be an outcome of tobacco reforms for several reasons. First, the tax increment will likely be passed onto consumers in the form of higher prices of cigarettes which may result in an increase in the smuggling of cigarettes into Nigeria as producers in neighbouring countries may want to benefit from the higher prices. Second, the tax increment will likely cause a rise in the demand for (and smuggling of) illicit cigarettes since they are typically more affordable than licit cigarettes. Third, tobacco companies attempting to avoid or evade higher taxes may smuggle tobacco products into the country. It is therefore important to examine the capacity of the Nigeria Customs Service in securing the country's borders which we expect will be increasingly prone to smuggling considering the increase in tobacco tax and future increments.

The interviews revealed that the Nigeria Customs Service wholly supports tobacco control policies and expressed its full preparedness in combating the envisaged rise in smuggling. The agency has deployed both conventional and innovative strategies in curbing smuggling activities in border towns including the creation of a special task force on anti-smuggling and the use of the Automated Systems for Customs Data (ASYCUDA) system to automate and control the core processes of the agency. However, officials disclosed that their anti-smuggling efforts are being rendered ineffective due to inadequate resources. First, units in the border towns lack modern equipment and facilities required to curb smuggling. An official in Lagos state reported that the scanning equipment in Apapa which identifies illicit products has been faulty. Similarly, one of the Customs units stated that they have only a few scanning machines and no functional vehicle. Second, incessant power failure, and in some cases, zero access to power undermines Customs' capability and increases the cost of operations. For instance, the Customs unit in Seme border of Lagos state relies solely on generators to power scanning machines as the town is not connected to the national power grid. Third, financial constraints abound as there are no budgetary provisions for tobacco control within the agency and workers disclosed that they are being paid lower wages relative to their counterparts in other government agencies. The apparent lack of resources in empowering Customs personnel demoralizes workers and undermines anti-smuggling efforts as officials' report widespread smuggling of cigarettes particularly through the country's lengthy and porous land borders.

(ii)   Smokers and the Tobacco Industry

The tobacco industry maintains a strong position within Nigeria as they influence the support and by extension, outcome of tobacco policy reforms. State and social actors including the Ministry of Health, the Ministry of Finance, Nigeria Customs Service and several Civil Society Organisations identified tobacco companies as a dominant negative force affecting the political will of government officials towards enacting tobacco tax increments. They noted that there is the possibility of tobacco companies taking legal measures to prevent the enactment of stringent tobacco laws in order that they remain operational. One of the Civil Society Organisations in the tobacco reform space stated that tobacco companies are particularly interested in Nigerian tobacco tax laws since Nigeria is a large market for tobacco products. Similarly, Customs through their interactions with smugglers divulged that tobacco industry players put their robust resources to use in undermining the activities of Customs personnel in their efforts to curtail smuggling. The tobacco companies offer residents of border towns incentives

to smuggle cigarettes in small quantities over a long period of time. The interviews equally found that lobbying from smokers particularly affluent smokers negatively affects tobacco control policy reforms.

However, the discussions with the CSOs revealed that tobacco farmers lack the financial prowess to lobby against tobacco control laws as tobacco companies collect a large portion of their profit as interest on the loans given to the farmers. The CSOs disclosed that the tobacco farmers, retailers and smokers mobilized during rallies are in some cases not genuine.

(iii)   Civil Society Organisations

Civil Society Organisations (CSOs) in the tobacco reform space appear to be the most influential agents shaping the political will of state actors, design and implementation of tobacco control laws and outcomes of tobacco reforms. CSOs accord high priority to tobacco control policies and declared their support for an increase in taxes on tobacco products. They described taxation as a very effective tool in curbing tobacco consumption which is why vested interests oppose proposed tax increments. The Environmental Rights Action/Friends of the Earth (ERA/FOEN) in particular stated that Nigeria should join its African counterparts like South Africa in implementing the WHO-recommended tax rate. The interviews also disclosed the large extent to which CSOs support tobacco control policies as demonstrated by the number of tools they employ to curb tobacco consumption: educate the public on the harmful effects of tobacco use; publish stories about the harmful effects of smoking; advocate for passage of bills to increase tobacco tax; and sponsor and participate in anti-tobacco campaigns.

Research and advocacy efforts however remain a core part of CSO activities as they provide evidence-based research for tobacco and health policy dialogues with the government. The New Initiative for Social Development (NISD)[21] stated that 80% of its activities are geared towards research and advocacy on tobacco control. Likewise, a research-based CSO[22] stated that the organization carries out a major research and advocacy initiative for tobacco control annually. Understandably, CSOs voted 'Advocacy for passage of bills' and 'Sponsoring anti-tobacco campaigns' as the most effective tools in curbing tobacco consumption. Nevertheless, the CSOs, through series of engagements with the public, pointed out that public officials have performed poorly in educating the public about the harmful effects of tobacco use which has impeded the implementation of tobacco control laws. The general agreement from the CSOs was that a multifaceted approach involving research, advocacy, education and other relevant tools is the key to achieving behavioural and policy change with regards to tobacco control.

(iv)   Multilateral Development Institutions

Multilateral Development Institutions (MDIs) with a presence in Nigeria have also expressed their support for tobacco control policies and acknowledged that excessive tobacco consumption has severe economic and health implications. The various MDIs, which have an influence on member countries, encouraged the government to increase tobacco tax particularly because Nigeria is in need of reliable revenue options considering the instability and unpredictability of oil revenue. The MDIs also suggested effective border control and banning of cigarettes to youths as effective strategies to curb smoking across the country.

Tying It All Together

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[21] New Initiative for Social Development is a non-governmental organisation committed to protecting human rights in Nigeria.
[22] Civil Society Legislative Advocacy Centre is a non-governmental, non-profit, advocacy, information sharing, research, and capacity building organisation.

Overall, our findings show that in the Nigerian context, political will for tobacco control is mostly motivated by CSOs with government officials playing a less-dominant role. The weak political support for tobacco control can be attributed to the capacity constraints faced by government agencies. The shortage of financial, technological and operational resources designated for tobacco control has hindered the ability of mid and low-level officials to effectively implement tobacco control measures and has led to their low support for changes in tobacco tax. In addition, the study reveals that the Ministry of Health accords higher priority to diseases such as Malaria, Tuberculosis and AIDS relative to tobacco use. Political priority for tobacco control exists but is not fully developed and is not easily sustained within the government.

Studies that have examined how tobacco control emerged as priority in other countries particularly Turkey demonstrate the need for key state actors that are willing and able to drive the tobacco control agenda. In Nigeria, the absence of senior-level government officials that are vibrant anti-tobacco advocates has led to low priority being accorded to tobacco control issues. Aside the absence of state champions, the study finds that lobbying from the tobacco industry remains a major hindrance to building and sustaining political will among government stakeholders.

In sum, the state of political will seems to be driven by an interplay of behavioural, structural, and contextual factors.

5.4 Policy Recommendations

Building political will requires a multi-stakeholder approach. Combined effort among key stakeholders in tobacco control is required to design effective strategies, implement policies, and monitor progress. To build political will among government officials, the following steps are recommended:

1. The government should collaborate with international donor partners to develop the infrastructure required for the implementation of tobacco control reforms and build technical capacity of the key actors.
2. CSOs would need to strengthen the research-based evidence-component of their advocacy efforts by increasing their engagement with research-based institutions. The NTCRG should seek the support of the international community to strengthen the depth, and broaden the scope of their analysis.
3. The stakeholders in tobacco control should identify individuals who can champion the reforms and support their activities. Documentary evidence points to the existence of genuinely passionate tobacco control advocates within CSOs in Nigeria than can champion reforms.

CHAPTER SIX:

Conclusion and Actionable Policies

6.1 Summary of Chapters

This study examined the market structure and recent developments in the tobacco control policy space in Nigeria. Smoking prevalence is growing in Nigeria and this poses significant health, public finance and productivity risks, requiring adequate policy intervention. There is a growing momentum towards curbing the upward trend in tobacco consumption through taxation and other regulatory control measures. This study focuses on tobacco taxation, exploring the potential health and fiscal benefits and the scope for the current market conditions to accommodate the proposed tax structure by government. In addition, we establish earmarking the revenue to targeted tobacco control initiatives and further examine the political will as well as support for tobacco taxation and earmarking.

Chapter two provides a snapshot of tobacco market and pricing structures in Nigeria. Cigarette prices were found to vary moderately across brands, regions and over time. Notably, economy brands have the highest variability, while the popular brands have the lowest variability. Price variation is also higher in the southern region than in the north. However, when the analysis is extended to affordability, cigarettes are less affordable in northern states relative to states in the south. Specifically, it takes 7.4% of the median per capita expenditure in the north to purchase a hundred packs of the cheapest cigarettes, whereas it takes about 5.9% of the median per capita expenditure in the south. Overall, we observe relative stability in affordability overtime, but a considerable variation between retailers' prices and consumers' self-reported prices by the smokers; suggesting that smokers likely obtain cigarettes from other sources, potentially the shadow economy. A simpler and harmonized tax system of high specific taxation would reduce price variation and any subsequent opportunity for consumers to switch between brands after tax changes. More importantly, lower price variation among popular brands combined with less affordability in high tobacco consuming regions suggest taxation will be effective in achieving the public health target of reducing smoking prevalence.

Chapter three compares Tobacco Tax Simulation Model (TETSiM) results for the proposed tobacco tax structure in Nigeria with alternative recommendations by the WHO and from respondents in the CSEA survey. The results indicate substantial economic and health benefits from tobacco taxation under various policy interventions. The WHO recommended tax structure yielded the optimal results in terms reduction in smoking prevalence and consumption, and revenue generation to government. However, when compared over a three-year period, the government proposed tax structure shows a significant improvement. This means that if sustained over time, it could yield similar public finance and heath gains to alternative interventions.

Chapter four assesses public support for tobacco taxation and earmarking, and simulates the potential gains from earmarking revenue from tobacco taxation to targeted public health and tobacco control programmes. We find significant public support for earmarking and tobacco taxation, even among smokers: Public support for tobacco tax increase is modest but increases remarkably if the tax revenue is to be deployed to public health programmes. A further sensitivity analysis based on TETSiM indicates additional gains in terms of reduction in smoking prevalence and tobacco consumption, as well as higher excise revenue from earmarking a portion of the initial revenue to combat illicit trade, for instance.

Finally, Chapter five provides an assessment what constitutes political will in Nigeria and how it is expressed by key decision makers, as well as identifies the dominant forces that reinforce and undermine the sustenance of political will in Nigeria. The findings from the thematic and descriptive analyses show moderate levels of political will among state actors, with CSOs being the most vibrant force influencing the implementation of tobacco control policies. Although political will for tobacco reforms is fair, a multi-stakeholder approach involving relevant parties would be effective in building the adequate level of political that can achieve significant marks in tobacco control.

6.2 Actionable policies

Based on the findings of this study, there are a number of actionable policy options for government and other stakeholders to draw from, which include:

A.   The proposed taxation needs to be sustained over a long period of time to maximize its projected public finance and health impacts. Government proposed tax is targeted over a 3-year period. While this is commendable, there is need to evaluate progress achieved along targeted outcomes and use this to develop a more encompassing intervention for a longer time-horizon.

B.   Earmarking the revenue from taxation to specific public health and tobacco control initiatives is important to amplify the effectiveness of tobacco taxation. Along this line, the prospective tobacco tax earmarking policy should have: i) a clear expenditure purpose that is neither too narrow nor too broad, ii) a strong but flexible revenue-expenditure link to avoid expenditure dependence on a sole revenue source, iii) "Soft" earmarking with option for reallocating funds to emerging priorities, iv) a strong Public Financial and management (PFM) and governance systems for monitoring and reporting revenue flows and impact, v) A clear medium-term time horizon for earmarking review. In line with best practises, additional revenue could be used to fund strong / high-tech stamp system to tackle illicit trade (such as Track-and-Trace systems). In line with the Nigerian public opinion and needs of the ministries of health, additional revenue should also be used to fund universal health care.

C.   A multi-stakeholder approach is needed to ensure broader support and sustained political will around tobacco taxation. This approach will assist in building robust relationship between state and non-state actors in tobacco control policy design and implementation.

D.   There is need to significantly improve the data and research gap on tobacco markets in Nigeria in order to design more effective policies. At present, non-state actors and donors have played the leading role in meeting the data and research needs of tobacco control in Nigeria. However, government stands to benefit significantly with availability of quality data and evidence-based policy design. It is therefore incumbent on government to also allocate human and financial resources towards this end.

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	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7	SCENARIO 8	SCENARIO 9	SCENARIO 10	SCENARIO 11	SCENARIO 12	
Table 2A: Cigarette Consumption **Quantity consumed (in millions of sticks)**													
Assumption on industry price	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	Average
Assumption on income growth	No income growth effect	No income growth effect	No income growth effect	Slow economic growth	Slow economic growth	Slow economic growth	Medium economic growth	Medium economic growth	Medium economic growth	High economic growth	High economic growth	High economic growth	
Baseline	920	920	920	920	920	920	920	920	920	920	920	920	920
Policy intervention 1	891	864	920	882	850	914	899	867	931	908	876	940	895
Percentage change relative to the baseline	-3.20	-6.08	0.05	-4.16	-7.63	-0.69	-2.27	-5.74	1.19	-1.27	-4.74	2.20	-3
Policy intervention 2	807	789	827	743	711	775	761	729	793	770	738	802	770
Percentage change relative to the baseline	-12.29	-14.27	-10.11	-19.20	-22.67	-15.74	-17.32	-20.78	-13.85	-16.31	-19.78	-12.84	-16
Policy intervention 3	830	809	852	790	759	822	808	776	840	817	785	849	811
Percentage change	-9.83	-12.02	-7.39	-14.09	-17.55	-10.62	-12.20	-15.67	-8.73	-11.19	-14.66	-7.73	-12

relative to the baseline													
Policy intervention 4	822	778	809	724	693	756	742	710	774	751	719	783	755
Percentage change relative to the baseline	-10.63	-15.48	-12.07	-21.26	-24.72	-17.79	-19.37	-22.84	-15.90	-18.36	-21.83	-14.90	-18

Table 3A: Government Revenue Excise tax revenue (in Ns millions)													
	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7	SCENARIO 8	SCENARIO 9	SCENARIO 10	SCENARIO 11	SCENARIO 12	
Assumption on industry price	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	Average
Assumption on income growth	No income growth effect	No income growth effect	No income growth effect	Slow economic growth	Slow economic growth	Slow economic growth	Medium economic growth	Medium economic growth	Medium economic growth	High economic growth	High economic growth	High economic growth	
Baseline	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Policy intervention 1	18.5	18.0	19.1	18.3	17.6	18.9	18.7	18.1	19.4	19.0	18.3	19.6	18.6
Percentage change relative to the baseline	+153	+146	+161	+150	+141	+159	+156	+147	+165	+159	+151	+168	+154.6
Policy intervention 2	60.7	59.8	61.8	52.7	50.1	55.3	54.5	51.9	57.1	55.5	52.9	58.1	55.9

Percentage change relative to the baseline	+730	+718	+745	+620	+585	+656	+645	+610	+681	+659	+624	+694	+663.9
Policy intervention 3	48.2	47.3	49.2	44.5	42.6	46.4	45.9	44.0	47.8	46.6	44.7	48.5	46.3
Percentage change relative to the baseline	+558	+546	+572	+509	+482	+535	+527	+501	+554	+537	+511	+564	+533.0
Policy intervention 4	68.2	64.0	65.5	55.0	52.1	57.8	57.0	54.1	59.8	58.1	55.2	60.9	59.0
Percentage change relative to the baseline	+832	+775	+795	+651	+612	+690	+679	+640	+718	+694	+655	+733	+706.1

Table 4A: Smoking Prevalence (in percentage)												
	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7	SCENARIO 8	SCENARIO 9	SCENARIO 10	SCENARIO 11	SCENARIO 12
Assumption on industry price	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent
Assumption on income growth	No income growth effect	No income growth effect	No income growth effect	Slow economic growth	Slow economic growth	Slow economic growth	Medium economic growth	Medium economic growth	Medium economic growth	High economic growth	High economic growth	High economic growth
Baseline	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60
Policy intervention 1	5.51	5.43	5.60	5.48	5.39	5.58	5.54	5.44	5.63	5.56	5.47	5.66

Policy intervention 2	5.26	5.20	5.32	5.06	4.97	5.16	5.12	5.02	5.21	5.14	5.05	5.24
Policy intervention 3	5.32	5.26	5.39	5.21	5.11	5.30	5.26	5.16	5.36	5.29	5.19	5.38
Policy intervention 4	5.30	5.17	5.26	5.00	4.91	5.10	5.06	4.96	5.15	5.09	4.99	5.18

	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7	SCENARIO 8	SCENARIO 9	SCENARIO 10	SCENARIO 11	SCENARIO 12	
Table 5A: Net-of-Tax Revenue **NOT revenue (in Ns billions)**													
Assumption on industry price	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	Average
Assumption on income growth	No income growth effect	No income growth effect	No income growth effect	Slow economic growth	Slow economic growth	Slow economic growth	Medium economic growth	Medium economic growth	Medium economic growth	High economic growth	High economic growth	High economic growth	
Baseline	157.0	157.0	157.0	157.0	157.0	157.0	157.0	157.0	157.0	157.0	157.0	157.0	157
Policy intervention 1	151.8	162.3	140.9	150.2	159.6	139.8	153.4	163.2	142.7	155.2	165.1	144.2	152.4
Percentage change relative to the baseline	-3.3	3.4	-10.3	-4.3	1.7	-11.0	-2.3	3.9	-9.1	-1.2	5.1	-8.1	-3.0
Policy intervention 2	135.5	146.0	124.8	125.6	132.5	117.6	128.8	136.1	120.5	130.5	138.0	122.1	129.8
Percentage change relative to the baseline	-13.7	-7.0	-20.5	-20.0	-15.6	-25.1	-18.0	-13.3	-23.2	-16.9	-12.1	-22.2	-17.3
Policy intervention 3	140.1	150.7	129.3	134.0	141.7	125.1	137.2	145.3	128.1	138.9	147.2	129.6	137.3
Percentage change relative to the baseline	-10.7	-4.0	-17.6	-14.7	-9.7	-20.3	-12.6	-7.5	-18.4	-11.5	-6.2	-17.4	-12.6

	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7	SCENARIO 8	SCENARIO 9	SCENARIO 10	SCENARIO 11	SCENARIO 12	
Policy intervention 4	124.2	129.1	109.2	108.6	114.4	102.0	112.1	118.1	105.1	113.9	120.1	106.7	113.6
Percentage change relative to the baseline	-20.9	-17.7	-30.4	-30.8	-27.2	-35.0	-28.6	-24.8	-33.1	-27.5	-23.5	-32.0	-27.6

Table 6A: Tax Burden
Excise tax burden (in percentage)

	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7	SCENARIO 8	SCENARIO 9	SCENARIO 10	SCENARIO 11	SCENARIO 12	
Assumption on industry price	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	No change in industry price	Industry increases price by 10percent	Industry decreases price by 10percent	Average
Assumption on income growth	No income growth effect	No income growth effect	No income growth effect	Slow economic growth	Slow economic growth	Slow economic growth	Medium economic growth	Medium economic growth	Medium economic growth	High economic growth	High economic growth	High economic growth	
Baseline	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Policy intervention 1	9.4	8.7	10.3	9.4	8.6	10.3	9.4	8.7	10.3	9.5	8.7	10.3	9.5
Percentage change relative to the baseline	+134	+116	+155	+133	+114	+154	+134	+116	+156	+135	+116	+156	+134.9
Policy intervention 2	22.8	21.7	24.0	21.1	19.7	22.6	21.3	19.9	22.9	21.5	20.1	23.0	21.7
Percentage change relative to the baseline	+465	+438	+495	+422	+387	+460	+428	+394	+467	+432	+397	+470	+438.0

Policy intervention 3	19.8	18.7	21.0	19.0	17.7	20.4	19.2	17.9	20.6	19.3	18.0	20.7	19.4
Percentage change relative to the baseline	+390	+363	+422	+371	+339	+406	+375	+343	+411	+377	+346	+413	+379.8
Policy intervention 4	24.1	22.6	24.8	21.5	20.0	23.0	21.8	20.4	23.3	21.9	20.5	23.5	22.3
Percentage change relative to the baseline	+498	+459	+516	+432	+397	+471	+440	+405	+479	+444	+409	+483	+452.7