



TAX AND SUBSIDY POLICY MODEL FOR ACHIEVING A TOBACCO-FREE NATION

Sisay Tolla WHAKESHUM

Jimma University, Ethiopia

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Abstract:

Tobacco use or cigarette smoking has predominantly unenthusiastic effects on human wellbeing causing diminished overall health welfare, minimized labour productivity and efficiency, and augmented health care cost. Recognized health and socio-economic outlays of smoking, countries began to intervene in the market of tobacco by the use of price and tax procedures with the intention of tumbling tobacco consumption and exposure. However, these interventions have featured some controversies on essential issues like freedom and utility concern from consumers and unemployment worries from producers and vendors. Therefore, to address these arguments the researcher developed intervention policies entitled "Policy Model of Tax and Subsidy to Achieve Sustainable Tobacco Control" well-thought-out tax and subsidy policies as a complement rather than substitute strategies to have a comprehensive campaign on controlling tobacco consumption and exploitation. Furthermore, the developed model can openly apply to other damaging products like khat, cocaine, etc.

Keywords:

Tax Policy, Subsidy Policy, Tobacco Control

1. Introduction

Cigarette smoking and other tobacco use accounts for one of every ten adult deaths even though tobacco consumption is the most needless cause of death in the world. Given this drift, about half a billion people alive today will die ahead of time owing to tobacco usage, almost one billion deaths from tobacco alone anticipated during the 21st century and about 80 % of these losses will be in low and middle income countries, including those in African continent. Developing countries, particularly on the African continent, have since the preceding decade received supreme attention from global governmental institutions including world health organization following a continual upsurge in tobacco consumption incidence. This supplement is principally driven by the tobacco industry's vow to create new-fangled tobacco markets in the developing countries (Savedoff et al., 2015).

Any form of tobacco usage epitomizes the leading avoidable cause of disease called cancer worldwide. Principally, tobacco smoking is rampant and wraps all ages, upsetting over a billion people wide-reaching. The overpowering of tobacco practise can be most realized by precluding youngsters and children from starting use in our days. And the fundamental infections instigated or triggered by tobacco use are lung cancer, emphysema, stroke, heart disease and attack, clogging and narrowing of arteries, mouth and throat cancer, stomach bleeding, gum disease and tooth loss, low birth weight, ear infections, truncated sexual performance and greater susceptibility to tuberculosis. Generally, the harmful effects of tobacco consumption are not limited to users, but also people exposed to second-hand tobacco consumption are at greater danger for lung cancer, coronary artery disease and other persistent health problems (WHO, 2015).

Given the socio-economic and health cost of smoking, many countries' government began to intervene in the tobacco market through tax measures with the intention of reducing tobacco usage. The underpinning reasons behind raising taxes on tobacco and associated products lies in the particular traits of the product: i) the demand for this product is relatively inelastic, so tobacco users are addicted to the products and consequently have little sensitivity towards a price change; ii) the product is not considered as a rudimentary essential for survival; iii) relatively tobacco production is controlled by few companies, which makes administration and tax assortment by the government comparatively easy; and iv) the product generates undesirable externalities (Smith, 2013). Substantial

increases in taxes on cigarette and other tobacco products are commonly considered to be a highly helpful mechanism to reduce tobacco production and encourage quitting tobacco consumption. Consequently, health and socio-economic costs caused by tobacco usage and production will be lessening.

In several forums, tobacco taxation has also been tinted as a means of activating local or domestic resources to finance health and other important development activities. In July 2015, the United Nations general assembly endorsed the Addis Ababa action agenda regarding to tobacco control. In this agenda, the United Nations accredited that “price and tax measures on tobacco can be efficient and important tools to reduce tobacco consumption and health-care expenses, and represent a revenue stream for financing vital development sectors in many countries. Consequently, in September 2015, the 2030 Agenda for Sustainable Development which include 17 sustainable development goals was also adopted in a United Nations General assembly. And it is to make sure healthy lives and endorse well-being for all ages, includes reducing premature mortality from non communicable diseases by one third and strengthening country-level realization of the world health organization’s framework convention on tobacco control (WHO, 2016).

2. Justification of the Study

The effect of tobacco usage is overwhelming and responsible for millions of death. Tobacco accounts for the greatest load among non-communicable diseases, corresponding to a vast healthcare and economic burden, alongside the social and emotional expenses associated with anguish and premature death. Furthermore, tobacco use enforces financial costs on national health systems and the population in general.

Tobacco use has been portrayed as the most policy-sensitive area of concern. Reducing any form of tobacco usage is one of the utmost helpful strategies to help countries achieve the world-wide objectives set forward to avert and control non-communicable diseases. And governments of different countries have taken tobacco control measures through intervention mechanism specially by imposing significant amount of tax on tobacco products. Besides the important contributions of tobacco tax on discouraging its destructive impacts, it has high potential to raise large amounts of revenues easily. And these proceeds from tobacco tax can be applied to subsidize tobacco control activities such as implementation of tobacco control procedures, information campaigns for awareness and access creation toward tobacco usage cessation, and elimination of illegitimate trade in tobacco industry. Similarly, revenue from tobacco tax can be employed to correct for the adverse externalities triggered by tobacco usage and production, such as the wellbeing or health consequences of exposure to tobacco smoke among non-smokers, or the financial costs of publicly financed healthcare services in handling diseases caused by tobacco consumption alone. Moreover, tobacco tax revenue can be a major source of government subsidy expenditure in low-income countries as a way to make tobacco control sustainable.

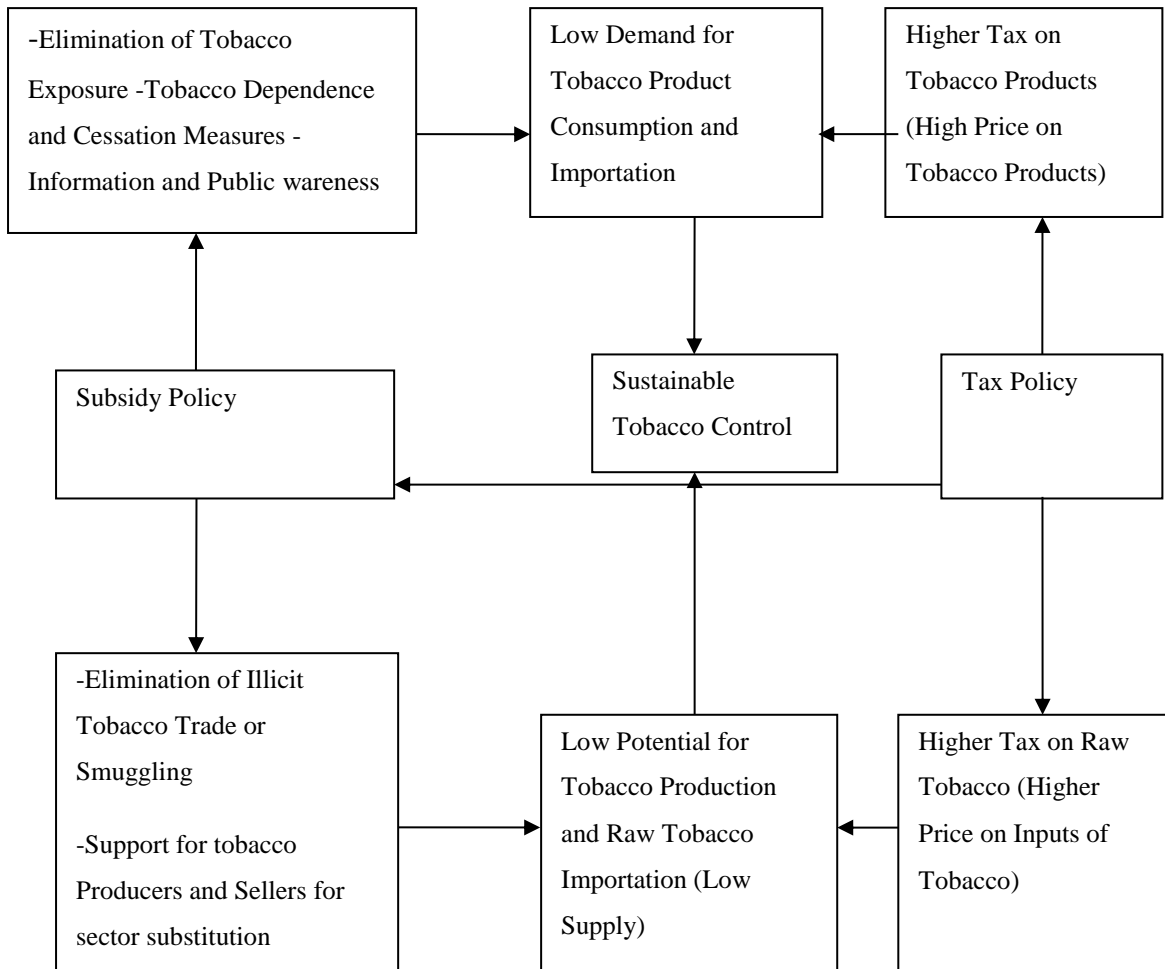
However, tax and price policy interventions for controlling tobacco usage have faced some resistance on important issues like moral concern from consumers or users and income and unemployment worries from producers. Indeed, there is a vast evidence-based confirmation that tobacco control efforts need to be comprehensive and lasting so as to be effectual, therefore comprehensive investigations and policy tools are required.

Taking in to account these realities, the researcher developed “Model of Tax and Subsidy Policies for Achieving a Tobacco Free Nation” in a compressive way considering the existing empirical and theoretical concepts. The developed model tried to fill the break of tax policy campaign which is manifested by the existence of inelastic demand in tobacco sector. Generally, this model is crucial and timely for countries that are ratifying World Health Organization framework harmony on tobacco control.

3. Model Analysis and Interpretations

The subsequent figure gives clear trace for theoretical and mathematical explanation of policy model of tax and subsidy for achieving a tobacco-free nation.

Figure.1. Policy Model of Tax and Subsidy for Achieving Sustainable Tobacco Control



3.1. Basic Pillars of the Model

- Market and information failures including lack of awareness about risk of tobacco usage particularly among youth groups, addictiveness of nicotine, health care cost and adverse effect of secondhand smoke are the main rationale for the need of tax and subsidy policy to control tobacco.
- Initially there is significant amount of tobacco usage and production including importation of tobacco product and input
- Tobacco producers can be purchaser of raw tobacco, producers of raw tobacco, or importers of raw tobacco
- Tobacco production sector is controlled by few enterprises as compared to others sectors which makes administration and tax assortment by the government legitimately easy
- By fluctuating or changing the tax rate, tax policy can affect tobacco control
- Tobacco Tax rate = tax rate on tobacco products + tax rate on tobacco inputs (raw tobacco like tobacco leaves)
- Higher tax rate on tobacco products can diminish the demand for tobacco consumption by tumbling the

purchasing power of the consumers

- High tax rate on raw tobacco discourages importers of raw tobacco and local producers of tobacco.
- The higher tax rate on tobacco products and inputs has dual impact on the issue of achieving a free tobacco nation that is; it reduces the demand and supply of tobacco, and provides revenue for subsidy
- The revenue generated from tax directly goes to subsidy for tobacco control as tobacco tax collection cost is insignificant
- $\text{Subsidy} = \text{Tax revenue from tobacco product} + \text{Tax revenue from tobacco inputs (raw tobacco)}$
- The amount of adequate subsidy is determined by the amount of both raw and finished tobacco and tobacco tax rate
- Tax policy can reduce both: demand for tobacco consumption by raising the price of tobacco products at least, and supply of tobacco products via augmenting the price of raw tobacco inputs or production cost.
- Subsidy policy can diminish both demand for tobacco consumption and supply of tobacco production
- Using subsidy and tax policy jointly has dual impact on both demand and supply of tobacco products
- Tax rate is determined by its effect on sustainable tobacco control (Tobacco production or consumption can vary from zero level to some optimum or minimum level).
- The optimum or minimum level of tobacco consumption or production is based on the determination of country's policy on tobacco control
- No need to use other funds except subsidy that will be derived from tobacco taxation to control tobacco

3.2. Theoretical Explanation of the Developed Model

The vision of realizing a tobacco free nation is very likely if there is a defined intervention of government through subsidy and tax policies. And these two policies should be considered as basic and complement strategies to have a comprehensive campaign on controlling tobacco.

Levying significantly high tax on tobacco products is a crucial tool to increase the price of tobacco which in turn diminishes the plea or demand for tobacco outputs. Higher tobacco product price decrease incidence by escalating interest in quitting, leave efforts and victorious cessation. Higher prices can lessen tobacco usage among remaining smokers via diminishing consumption by daily smokers. Fortunately, children, teenagers and people on low incomes are more reactive or sensitive to increases in price. Therefore, the influence or impact of tobacco tax measures is paramount amongst the exposed or susceptible population groups. If tax upturns on tobacco products can prompt cessation or reduced consumption among the poor or vulnerable groups, it can also discharge limited resources for other necessary needs like food, housing, and others.

Correspondingly, high tax lobbying to the producers and importers of tobacco inputs (raw tobacco) can reduce the potential and desire of importers and producers to invest in tobacco sectors. Substantial escalations in taxes of tobacco products such as cigarette can extensively be distinguished as a highly effective mechanism to lessen tobacco usage and, consequently, the death, disease, and socio-economic costs caused by tobacco consumption and production. Tobacco levies high opportunity cost to smokers, families and the society in general. Tobacco users could allocate tobacco outlays to purchase other healthy goods and services which would augment the welfare of the society at large. Generally, the foremost aim of tobacco input and product taxation is to diminish production and consumption by making tobacco inputs and products progressively less affordable.

However, there is argument in opposition to high tax both on tobacco products and inputs since higher tobacco tax cause a considerable unemployment or permanent job losses and loss of revenue (i.e. attributable to drop in demand and sales due to price increase) among workers in tobacco industry. Furthermore, higher tobacco tax penalizes more poor people as people on low incomes are usually more receptive to price increases and tobacco taxes can also result in more cigarette smuggling. Therefore, these limitations of high tobacco tax suggest the need for other harmonizing policy that is subsidy.

The source of subsidy is the revenues generated from tax on tobacco inputs and products. Besides the important contributions of tobacco tax on discouraging its destructive impacts, it has high potential to raise large amounts of revenues easily to offset the costs to the healthcare system of treating tobacco related diseases at least. And the proceeds from tobacco tax can be employed to subsidize or support tobacco control activities; for instance, execution of tobacco control policies and strategies, mass media information campaigns for smoke free messages,

awareness and access creation toward tobacco usage cessation, eradication of illegal trade in tobacco sectors, mobilizing financial resources for health promotion and other public education movements by warning the health risks of tobacco smoking. Subsidy from tobacco taxation can be used to advocate for updates taking into account innovations in tobacco industry tactics as well as for compliance monitoring and enforcement training. Because of information asymmetry, predominantly teenagers are not fully conscious of or undervalue the threats of morbidity and premature mortality due to tobacco consumption and exposure to tobacco smoke. Similarly, this revenue can be used to correct for the externalities caused by tobacco use, such as the health consequences of exposure to tobacco smoke among non-smokers, or the financial costs of publicly financed healthcare services in treating diseases caused by tobacco. Moreover, tobacco tax revenue can be a major source of government subsidy expenditure in low-income countries as a way to make tobacco control sustainable.

Supply side efforts motivated by crop substitution entails farmers switching from tobacco to other crop with less negative health allegations are possible to be effective as a means of controlling tobacco use with other chained supply and demand measures. Providing subsidy to tobacco suppliers in order to make them to involve in another alternative productive sector is a solution for the problem of job and income loss that created by high tobacco taxation. Labor-intensive crops and value-added activities can be the most promising alternatives. For example, cassava, sugar cane, cotton and soya beans are the main available alternative marketable crops. While making transition to other healthy crops, information about soil characteristics, field size, rainfall patterns, topography, necessary machinery complements, and managerial proficiency can help farmers to cope up soon. In general, in this era of dynamism, blended policies of taxation and subsidy could be the solitary way of achieving a tobacco-free nation.

Last of all, a well-designed tax and subsidy policy model is not sufficient if the tax and subsidy administration agencies are lacking the technical and human capacity needed to implement and reassess the developed model. Straightforwardness and transparency in tax and subsidy structure and administration reduce administrative and compliance costs, as well as opportunities for corruption, leading to greater and sustainable tobacco control campaign. Tax and subsidy administration should be effective in the sense of ensuring high observance, and efficient in the sense that administrative costs are low relative to income collected. Better communication among main parties and evolving technologies should be employed as apparatuses to enhance enforcement and reduce the size of the illicit market and smuggling.

3.3. Mathematical Proof of the Developed Model

According to the developed model, tobacco taxation is mandatory as long as there is production, importation and consumption of tobacco. Hence, lessening in tobacco consumption, according to the model, is reflected by lower amount of tobacco tax income.

$$TC = 0 - TTI - TSI + e$$

$$TTI = TITI + TOTI$$

$$TC = \textit{Tobacco Consumption}$$

$$TTI = \textit{Tobacco Tax Income}$$

$$TSI = \textit{Tobacco Subsidy Income}$$

$$TITI = \textit{Tobacco Input Tax Income}$$

$$TOTI = \textit{Tobacco Output Tax Income}$$

e=error terms which reflect all occurrences against the developed model

0 (Zero) implies that there is no autonomous tobacco consumption as tobacco consumption is not basic need for human being survival.

Since the entire tobacco tax directly goes to tobacco subsidy, $TTI = TSI$, then

$$TC = -2TTI + e$$

And this equation shows that if we use the entire tax from tobacco taxation as tobacco subsidy, the impact on tobacco reduction will be double. Tobacco Tax Income is determined by tobacco tax rate and amount of taxed tobacco.

Given the fact that there is tobacco taxation as long as there is production, importation and consumption of tobacco, when $TTI = 0, TC = 0$, implies that when income from tobacco tax turns into zero, the level of tobacco control become successful (zero level of tobacco consumption). Likewise, drop in tobacco consumption, according to the model, is reflected by lower amount of tobacco tax income.

In general, the following equation is mathematical figure of “Policy Model of Tax and Subsidy for Achieving Sustainable Tobacco Control” which implies the impact of tax and subsidy policy on tobacco control.

$$TC = -2TTI + e$$

4. Conclusion and Recommendations

Tobacco consumption is the single most avoidable source of death in the globe and the most significant public health concern of our time. Since many countries are victims of health and socio-economic impact of tobacco consumption, tobacco is one of the discouraged commodity items in the world. These issues encouraged the researcher to develop an economic policy tool for controlling tobacco usage entitled “Policy Model of Tax and Subsidy to Achieve Sustainable Tobacco Control”. The developed economic policy model assures the hallucination of a tobacco free nation. “Policy Model of Tax and Subsidy to Achieve Sustainable Tobacco Control” reflecting the necessity of chained tax and subsidy policies as the merely potential intervention to achieve a tobacco free nation. And the developed model can straightforwardly be relevant for the other injurious goods like khat, cocaine, etc.

To actualize the developed model, therefore, government as a key player should create national coordination of tax and subsidy policies to maintain information on promoting tobacco cessation. And government can smooth the work through disseminating the developed model targeting main stakeholders for best possible outcomes. Strategic leadership for the developed model should occur in decentralizing and flexible way with an official mandate to develop tobacco control infrastructures and coordinate model implementations. Furthermore, establishing a system of monitoring and evaluation of the model is fundamental to make tobacco control sustainable. Apart from government bodies, producers and consumers of tobacco products and inputs, non-governmental organizations and even the general public should support the campaign of a tobacco free nation due to direct and indirect health, social and economic disturbances of tobacco consumptions and productions.

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