THE EFFECT OF EXCISE TAXES ON THE PROFITABILITY OF ALCOHOL

AND CIGARETTE MANUFACTURERS IN KENYA

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DECLARATION

The work contained in this project has solely been done by myself and has not been presented for a degree at any other Institution.

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LIST OF ABBREVIATIONS

VAT	:	Value Added Tax
KES	:	Kenyan Shilling
EAC	:	East African Community
BAT	:	British American Tobacco
ANOVA	:	Analysis of Variance
EABL	:	East African Breweries Ltd

ABSTRACT

It is the responsibility of the government to look at the welfare of its citizens. The government tries to discourage use of products that might be considered social vices, by trying to influence their prices through increase in excise taxes. The alcohol and the cigarettes manufacturing firms in Kenya have been targeted by the government through constant increase on excise tax in order to discourage use of products that might have adverse effect on the well-being of the citizens. This study therefore undertook to look at the effect of excise tax on profitability of alcohol and Cigarettes manufacturers in Kenya listed at the NSE. There are only two companies that fall in this category, namely EABL and BAT company Limited. The excise taxes introduced by the government tends to increase the price of these products making them expensive and therefore undesirable by the general population. The study undertaken used secondary data that was obtained from the companies' websites and the NSE handbooks. A descriptive research design was adopted as it tried to determine the relationships between variables. Data collected was analyzed by the use of multiple regression where excise tax was the independent variable, liquidity ratio and market share price were the control variables. The dependent variable was profitability that was determined by the use of net profit margin. A correlation analysis was undertaken that showed a negative correlation between excise tax and profitability that meant that increase in these taxes led to a decrease in profitability. The study found a positive correlation between liquidity ratio and profitability at 0.466 and almost zero correlation between market share price and profitability. The study rejected the null hypothesis of the model as the F value calculated was greater than the F critical value and similarly the significance of the model was statistically significant as the alpha was more than the p value.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Invariably, most firms are in business to make profits; Profit refers to the financial benefit realized when revenues realized by a company from its operations and business activity exceed the costs, expenses, and taxes required to sustain the business activity. To make profit, firms must generate sufficient revenues; revenue refers to the income achieved by a business enterprise from its normal operations, normal from selling services and goods to consumers (Kokemuller, 2016). Excise tax is a type of inland tax charged on goods for the sale, or on the production of goods for sale, of particular services or goods or a tax on a commodity sold, or produced for sale, or licenses for special activities in a country. Excise taxes are taxes levied when there is purchase of the specific good or service, for instance gasoline ('Accurate Tax', 2016). Excise taxes affect the profits and revenues that firms achieve; when governments levy extra or increased taxes such as excise tax, the manufacturers are forced to raise their prices in order to remain in business or continue making profits. However, a variety of factors come into play, for instance, the type of product and its response to price changes (elasticity).

The application of tax and its effect on product prices and organization revenues are governed by various theories, including the optimal taxation theory and the tax incidence and shifting theories. The theory of optimal taxation refers to a study of the design and implementation of tax that reduces distortion and inefficiency in a market in given economic constraints. It entails minimizing distortions resulting from taxation because taxes in general can distort the behavior of people with regard to consumption (Cordes, Ebel & Gravelle, 2005). The optimal tax theory aims at ensuring fair taxation that removes distortions. The tax shifting theory posits that incidence of tax falls on the entity that ultimately bears the onus of paying the tax. The concept underlying the theory is that tax incidence depends upon the price elasticity of supply as well as the price elasticity of demand and not on the location of collection of revenue. The government uses ad valorem excise and specific taxes as instruments: theoretically, it is expected that with increased prices, the demand for cigarettes will drop as producers are likely to shift the excise tax price increase to consumers (Blinder, 1975).

Decreased demand should theoretically result in reduced sales and hence reduced revenues and profits for manufacturers, so that alcohol and cigarette makers in Kenya should experience reduced sales and hence reduced revenues, profits, and shareholder return and this can be seen using a trend line for revenues and profits before imposition of a new excise tax regime. This research study however, argues that while it is theoretically expected that increased cigarette/ tobacco and alcoholic products prices as a result of increased excise taxes will result in significant drops in the sales revenues and profits of the manufacturers. On the contrary, despite increased product prices, the manufacturers of cigarettes and alcoholic products (hereinafter known as 'sin products') are still expected to continue being profitable and see revenues increase. The profits of sin products manufacturers continue to grow despite increased excise taxes; tobacco firm in Kenya still return impressive profits as do alcoholic beverage manufacturers (Mwiti, 2016; 'Capital Business', 2017). Cigarette in particular has low sensitivity to price so the demand elasticity in response to price changes is low so price is not a major determinant of cigarette consumption (Bader, Boisclair, & Ferrence, 2011), while studies have shown that alcoholic

products have a higher sensitivity to price changes. This study also argues that because of relative price inelasticity for sin products, manufacturers raise prices at higher rates or levels that offset the excise tax increase through tax incidence shifting to the consumer, and so they should continue minting higher profits and revenues as well as experience increasing shareholder returns.

1.1.1 Excise Taxes

Excise refers to taxes charged on every unit of a commodity on products such as alcohol and cigarettes that is sold and differs from sales tax since it is levied per unit of the commodity instead of as a percentage. One of the main goals of excise is to discourage consumption of a certain good although they are also a revenue source for government (Guhl, 2003). According to the OECD (2018), excise tax refers to a tax imposed on an occupation, act, privilege, occupation, sale, or manufacture and is selective taxes levied on certain goods and services. According to Due (2010), excise taxes, based on the British concept and consistent with many British Commonwealth countries, is a levy placed on production instead of sale imposed only on commodities and not on services, on domestic activities, at specific rates and quantitative control. The modern concept of excise tax is significantly broader and applies to either sale or production of domestic or imported type with either specified ad-valorem rates, with physical or accounts control and can apply to services as well.

Excises taxes are an important means by which local and national governments can raise additional revenue that is necessary for major projects. Often, excise taxes are levied on alcohol, cigarettes, gambling, and alcohol as they are considered superfluous services and goods. Raising taxes on such products results in their prices being raised and reduce the amounts used; which is another important function of excise taxes; they result in an overall reduction in quantity sold as the prices consumers pay increases and revenues producers get reduce as demand falls (Needles, Anderson, & Caldwell, 2013). Governments use excise taxes to implement benefits-received approach to taxation, for instance, taxes on petroleum products. The use of petroleum is related closely to highway travel and so offers a link between taxes paid and benefits derived from the highways. The link is strengthened further by specifying areas where such taxes are to be used in offering government services relating to the activity; for instance, using fuel taxes on highways construction and maintenance (Cordes, Ebel & Gravelle, 2005).

Excise taxes are measured in two main ways; it can be computed as a cash payment, the same way payments for services and goods are measured and this method is widely used by accountants, macro-economists, and the media. Excise tax can also be measured determining the losses imposed on the taxpayers as a consequence of the excise tax; this implies it can be measured as the opportunity cost of the excise tax. It can be measured as well as the reduction of consumers' profits and surplus induced by the excise tax and this method is used widely by micro-economists and public economists. This form of measurement relies on the extent of reduction of market transactions (Hildreth and Richardson, 1999). Assuming T is the excise tax imposed on the sale of each unit of a product sold in a market, after imposition of the tax, the market clearing price is no longer P^* . If firms simply add T to P^* , consumers will purchase fewer of the product at its new price which is ($Pc = P^* + T$) to match the supply, that remains at Q^* . If the firms simply 'absorbed' the tax, they would provide very little of the product at the after-tax price given

by $Pf = P^* - T$ in order to meet demand that remains at Q^* when $Pc = Q^*$. the market surplus must be cleared by having firms receive less than P^* for every item sold with consumers having to pay more. A new equilibrium curve is set where Qd (Pf + T) = Qs(Pf) with the curve being T dollars above it and at this point demand equals equilibrium while consumers pay T dollars above what firms receive (Pf = Pc - T). at this point, it seems the tax has been simply passed on to consumers since Pc = Pf + T. in another way, both consumers and the firms share the excise tax burden since consumer surplus and the profits are diminished by the excise tax. Consumer tax falls to area I after tax from area I+II+III while output drops to Q^1 (Quesada et al., 2014); these are illustrated below;



1.1.2 Profitability

Profitability refers to the ability of a company to earn a profit; in accounting terms, profit refers to the difference between the purchase price of goods and all the costs associated with bringing it to market. In economics and finance, profit can either be normal or economic. Normal profit are constituents of implicit costs and represent opportunity costs, it does not at all constitute business profit; the time spent engaging in one business that could be spent running another business (Torok & Cordon, 2002). Normal profit is the amount of profit comparable to the next best returns (amount) an enterprise owner could get engaging in a different enterprise. Profit is the return investors get, when not included as a factor of production, plus all the associated risks to a business venture. Profit is thus commensurate with the risks associated with each different investment type based on the risk return spectrum (Myers, 2013). In accounting terms, profit pertains to the income distributed to owners in the process of production that is profitable and is as such a measure of profitability. Profitability here then is the main interest in the process of generating income in market production for the owner (Needles, Anderson, & Caldwell, 2013).

In summary, profit is a measure of the income formation share that owners can keep for themselves in the process of income distribution because generated income is always distributed to production stakeholders as economic value. It is affected by various factors including qualitative factors such as advertising and brand value and quantitative factors such as sales earnings, cost of goods, and taxes levied.

1.1.3 Excise Taxes and Profitability

Excise taxes are levied by governments to discourage consumption of certain 'sin products' such as alcohol and tobacco while simultaneously raising revenues (Cordes, Ebel & Gravelle, 1999). The theories of demand and supply govern how markets work based on how price determines demand and product supply (Salvatore, 2003). Profitability is also a measure of firm efficiency and growth and provides cash flows essential for future development while also positively impacting the stock price of listed companies (Hill,

2017; Mejorado and Roman, 2016). Beigi, Rafat and Panah (2013) studied the effect of tax on the profitability indices in listed firms at the Tehran stock exchange using a descriptive analytical model for listed companies for the period 2004 to 2010. The researchers established that taxes have important but negative impacts on the profitability indices of these companies. Linegar and van Welbeek (2018) studied the effects of increasing excise tax on the prices of cigarettes in South Africa using regression equations and found that there was under-shifting of the excise tax such that a Rand 1.00 increase in excise taxes led to a Rand 0.90 increase in cigarette prices. The authors conclude that the cigarette market's competitive environment determines magnitude of price increments. According to 'Alcohol Justice' (2014), alcoholic products manufacturers often resist any increments in excise taxes; however, when excise taxes are levied, they pass the cost to consumers, at the rate of between 1.6 to 2.1 times the amounts of imposed taxes and this more than compensates for the increase in excise tax, resulting in their profits remaining at pretax levels, or even increasing.

Russel and van Walbeek (2016) studied the effect of changes in beer excise taxes on the retail prices of beer in South Africa using quantitative techniques and data. The researchers found strong evidence that producers over shift the tax burden to consumers by a pass-through factor of 4.83 for larger and 4.77 for all beers, including dark beers. This means that for each unit currency excise tax increments, the retail prices rise by 4.8 currency units. In Kenya, listed 'sin products' (Alcohol and Cigarettes) manufacturers have reported reduced earnings as a consequence of excise tax increases in addition to other social factors such as elections (Kamau, 2018). EABL, for instance, reported a 6% growth in net profits in 2017 compared to 2016, despite the effects of increased excise taxes based on a new

excise tax regime introduced in 2015. The effects of excise taxes on alcoholic companies have been mixed; in 2018, EABL reported a reduction in profit due to increased excise taxes on alcohol in its Uganda market, according to the East African (2018); EABL also saw a 28% drop in profits in its 2017 half year results because of an increase in excise taxes on alcohol products (Wafula, 2017). For listed cigarette makers, increased excise taxes have been reported to lead to reduced profitability, at least in the short term (Okoth, 2017)

1.1.4 Listed Alcohol and Cigarette Manufacturers in Kenya

The 'sin' industry in Kenya (gambling, tobacco products, and alcohol manufacturers) is well developed, but with few players akin to an oligopoly with the few players engaging in intense rivalry to gain market share. In the cigarette sector, BAT is the major player with 78% of the market share (Kimosop, 2011). EABL is the only listed alcohol manufacturer EABL enjoys about 90% of the formal alcohol market share in Kenya (Africa Yield, 2017). However, despite the rivalry and increased excise taxes, they still perform well financially. Gambling companies are not yet listed at the stock exchange

The Kenyan 'sin products' manufacturers have experienced mixed performances over the years as a result of excise taxes, and usually, the impact of excise tax increments or new regimes are felt most in the immediate future i.e a year or two after being introduced, after which the companies continue to experience increased profits even with the introduction of the uniform excise tax on cigarettes in 2011 and recently in 2015 (Mwiti, 2016). The Kenyan government imposed a uniform excise tax of KES 1200 per *mille* of cigarettes while for alcohol; the rate is KES 100 per litre of alcohol and KES 200 per litre of spirit. However, instead of cigarette manufacturer revenues declining or slowing down, they have

continued to improve, BAT K Ltd being an example (it is the major player with 72% of the Kenyan market). The companies continue to rake in profits despite challenges of higher taxes, reducing consumption, and the effect of counterfeits flooding the market (Herbling, 2013).

1.2 Research Problem

According to DeCicca, Kenkel, & Liu (2010), in industries that are competitive with perfectly elastic supply and free entry and exit, in the equilibrium state, tax is shifted to consumers and away from the suppliers, and in most cases, there is over-shifting at rates higher than one. The shifting is however consistent with the theoretical concept of tax shifting under markets where competition is imperfect and there is Oligopoly (DeCicca, Kenkel, & Liu, 2010). The effect of the excise tax regimes is mediated by factors that include demand and supply, product prices, elasticity, and elasticity. They affect the profitability of cigarette makers because they have a direct influence on demand and consumption and ultimately, affect the specific outcomes of increased prices and reduced consumption that lead to lower profits for cigarette makers; all due to the excise tax policy.

Kenya's excise tax system has been under constant reform in the past two decades, changing from specific tax rate to ad valorem and back to specific taxes, as well as to mixed specific and ad valorem taxes (Kimosop, 2011). The excise tax regime in Kenya at present is very good, with high revenues from both alcohol and tobacco, contributing about 4.5% of the GDP and have income elasticity of nearly 1. Mueithi (n.d) discussed broadly the tobacco related issues in Kenya including consumption, taxation, production and the major players, largely for the periods between the 1990s and 2004.

The findings show that the per capita consumption of cigarettes is increasing while government revenues from cigarette taxation are increasing, although declining as a percentage of total government revenues (Mureithi, n.d). A research to determine the effect of excise tax increases and harmonization on cigarettes in the EAC in 2014 established that a specific uniform tax is the most preferable structure for excise tax. The research, assuming demand price elasticity of -0.6, results in decreased cigarette consumption when excise taxes are increased; further government revenues are increased and concludes that increasing excise taxes result in better public health outcomes (reduced consumption) while government revenues increase when uniform excise taxes are used (and raised) (Jodie & Corne, 2014).

An investigation on the implications that tax, price, and cigarette smoking has on tobacco companies marketing strategies in 2002 established that cigarette makers responded to cigarette tax policies using pricing and price based promotions; however, there is a gap that informs this study; how does tax policies on cigarettes and alcoholic beverages affect the profitability of cigarette makers (Chaloupka, Cummings, Morley & Horan, 2002). An investigation on the impacts of tobacco products tax policies in Philippines in 2012 established that increased excise taxes result in reduced tobacco consumption due to increased prices and community health benefits in terms of better health from reduced cigarette use. However, the study failed to study other mediating factors such as demand, habit, and elasticity and how the excise taxes affected the profitability of cigarette makers (Quimbo *et al.*, 2012).

Research on effects of excise taxes in 2008 established that a single rate specific tax leads to relatively high increments in the prices of the sin products and consequently result in the market share of cheap cigarettes reducing (International Institute for Legal Affairs, 2008). Past research has not clearly identified how changes in sin tax regimes impact the profits of listed sin products manufacturers in Kenya with excise tax regimes leading to Kenyan cigarette makers experiencing increased profitability, and this is the conundrum; what is seen goes against the grain of what is expected. This research seeks to find why. This research therefore proposes to evaluate and establish the connection between excise taxation on sin products and the financial performance of the listed sin products manufacturers in terms of profitability indices with a view to contributing to the available scientific research on excise taxes and the Kenyan sin industry (Michira, 2015). The existing research gap relates to the extent that excise tax policies affect sin products manufacturers because while intended to raise cigarette prices and hence lower consumption with the result that cigarette makers experience lowered profits and profitability that will discourage further investment in production, and subsequently reduce overall cigarette consumption in the economy.

In sum, a review of the financial performance of the main sin products makers in Kenya shows that as excise taxes are implemented or increased for the products (alcohol and cigarettes), their incomes (profit) experience mixed results but keep rising in the longer term. This research therefore seeks to evaluate and establish the connection between excise taxation on sin products and the financial performance of the manufacturers as measured through profitability with a view to contributing to the available scientific research on excise taxes and the Kenyan cigarette industry. This information will help policy makers

develop better strategies at reducing the consumption of sin products for social and health benefits; by understanding how excise taxes affect the profitability of the sin products manufacturers. This paper therefore seeks to answer the question;

How do changes in excise tax regimes affect the pricing, and therefore, the profitability of the listed manufacturers of Alcohol and Cigarette in Kenya?

1.3 Research Objective

To ascertain the relationship between excise tax regimes and the profitability of listed sin products (alcohol and cigarettes) manufacturers in Kenya through an empirical study and establish the impact of mediating factors on this relationship

1.4 Value of the Study

This survey will add to the present knowledge on how sin taxes affect company profitability for listed firms. Importantly, it will help fill the research gap based on past research in which the effect of sin taxes on profitability of listed manufacturing companies has not been clearly tackled and understood (Bader, Boisclair, & Ferrence, 2011). This is important for policy makers and governments whose aim is to achieve better social and public health outcomes through reduced drinking and smoking. Cigarette and alcohol makers will always remain in business and the consumption of these products will continue as long as they remain profitable, yet external costs such as health-care for affected persons will continue to increase. By understanding how mitigating factors such as elasticity and demand and habits affect the direct effects of tax policies on sin products makers, better control policies can be adopted. Further, this research hopes to create a clear understanding on how sin taxes affect the profitability of sin products manufacturing firms.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The relevant literature on excise taxes on cigarettes and revenues and profits for cigarette makers is covered in this section. The section starts by covering the relevant theoretical literature that examines the corpus of theory accumulated with regard to excise taxes on cigarettes, price shifting by producers, the elasticity of demand of cigarettes and how this impacts the financial performance of the producers. The theoretical literature is followed by a review of empirical literature that will discuss the empirical relationship between demand and supply in light of excise duty before a review of past local research in the subject; the section ends with a summary of the findings.

Theoretical literature review is covered in section 2.2, with theories covered in subsequent sections; 2.2.1 covers efficient taxation theory, 2.2.2 covers the theory of tax incidence and tax shifting, while 2.2.3 covers optimal taxation theory. Empirical studies are covered in section 2.3. The models underpinning the research are covered in section 2.4 (theoretical model) and 2.5 (conceptual model), and section 2.6 is a summary of the chapters.

2.2 Theoretical Literature Review

Tax increments or impositions have the effect of immediately leading to increments in product prices. The result is that consumer purchasing power drops, following the laws of demand and supply, though this is dependent on the elasticity of demand of the product. Further, these changes lead to readjustments in production of the products, therefore affecting the production and distribution costs and this further creates a new pricing pattern for the products. This realignment inevitably leads to a reduction in sales volumes and profits. For excise taxes, there is usually no likelihood of an immediate increase in the prices of the affected goods but in time, higher price patterns are the consequence of increases in excise taxes. Gross sales taxes as well as excise taxes imposed on manufacturers impose varying tax burdens on goods and services based on their production and distribution chains. These varying tax burdens lead the tax forms (ad valorem and excise) to modify the consumption, price, and production patterns than can be caused by other taxes such as retail sales taxes (Entin, 2004). In summary, taxes cause product prices to increase, which then result in rational customers demanding less, implying fewer sales and hence reduced revenues and possibly profits for sellers/ producers.

2.2.1 Profit Maximization Theory

Among the prominent proponents of this theory is Machlup where he argues that price should be set equal to the average variable costs plus a margin for profit (Dwivedi, 2006). In the neoclassical firm theory, profit maximization is the main objective of any business firm and profit is maximized when marginal costs equal marginal revenue and when the marginal costs curve intercepts the marginal revenue curve from beneath. The maximum profits refer to the pure profits and are surpluses above the average costs of production; it pertains to the profit a business gets over and above the normal profits. Profit is maximized when revenue from units sold exceeds the cost of selling those units.

The profit maximization theory holds where a firm produces a perfectly divisible, single and standardized commodity and the habits and tastes of consumers are given and constant. It also holds when the firm enjoys absolute knowledge on the output quantity possible for sale at every price and profits are maximized over a specific time horizon, in the short term as well as the long term (Chand, 2014).

The best strategy for the profit maximizing firm between the two extremes of tax payment being 'good' so as to be paid or 'bad' so as to be avoided is the status quo. When costs are taken into consideration, the outcome is that paying excise taxes becomes a 'bad' and the most fitting strategy is to avoid it to maximize static profit while for dynamic profit maximization, the strategies of excise tax as being a 'bad', 'good' or 'status quo' may all be viable strategies (Seber & Arslan, 2012). But because firms are in business to make profit, they will continue to remain in business as long as they remain profitable.

Imposing excise duty adds an extra cost to businesses so that the marginal costs increase, and because profit maximization is possible only when marginal costs equals marginal revenues so for such a firm, the objective is to increase marginal revenues. Governments impose sin taxes to control (reduce) use of certain products that re ultimately harmful to personal and community health, and increases its costs to provide medical care and reduced productivity of affected persons. But as long as there is a profit, and the firms can maximize profit, they will remain in business.

This paper sought to establish how excise taxes affect profits for firms producing goods for which excise taxes have been imposed. In relation to this study; this theory provides clues on how alcohol and cigarette makers in Kenya seek to maximize their profits, the sin taxes notwithstanding. The makers can keep their profit margins high by raising prices at a percentage equivalent to or higher than the percentage change in excise duty rate In summary, business firms seek to maximize profit and they will only remain in business if they are profitable. Firms can adopt any of excise the viewpoints on excise taxes as being 'good', 'bad', or 'status quo'. Excise taxes raise the marginal costs for a company and it must respond by increasing marginal revenues to continue maximizing profits, either statically or dynamically. This theory has been chosen because in the objective of the research is to establish how excise taxes affect cigarette makers profitability; based on the elasticity of cigarette demand to price changes, manufacturers are likely to adjust their profits in such a way that they maximize profits. It is aimed at meeting the objective of evaluating the effect of mediating factors such as demand, elasticity, pricing, and habit on the cigarette tax policy instruments.

2.2.2 Tax Shifting Theory

The tax incidence theory is based on the diffusion theory which states that eventually, it is impossible to trace the final tax incidence since all taxes are diffused in the economy. R.A Seligman proposed the tax shifting and incidence and postulated that they are essentially a matter of prices, an issue between the seller and buyer, the consumer and producer. Consumers bear taxes when imposed taxes result in the consumption price increment; but if the tax rises by less than the full tax rate, then producers are obliged to bear the tax burden that the price increase does not absorb (Wicksell, 2002). The incidence of tax determines who between the buyers and producers will bear the burden of a new tax. The person that pays for the increased is determined largely by the price elasticity of the commodity. If the commodity has high price elasticity, then the producer is likely to bear the cost of the increased tax burden as any significant shift of the price to the consumers will significantly affect demand. In contrary, if the commodity price is highly inelastic, the producers are

odds-on to shift the additional tax to the consumers since price changes will not significantly impact demand (Entin, 2004).

Research shows that excise taxes on cigarettes are highly regressive because the result is usually that instead of the low-income population quitting, they become more burdened by higher cigarette prices. This effectively means that poor people use a larger proportion of their incomes in paying tax than do the rich because excise taxes are usually shifted by manufacturers to the consumer (Holt & Pressman, 2001). The poor smoke much more than the rich, so they pay more taxes when they keep smoking at the same rate when cigarette prices rise as a result of excise taxes. In addition to price elasticity of demand, people respond differently to increases in taxes, and therefore cigarette price increases; some cut back on their consumption, others do not change their habits, while others may quit smoking all together due to rises in cigarette prices (Remler, 2004).

Governments use sin taxes to raise revenues, manage consumption, and promote public health (Baumol & Blinder, 2009). For this research, manufacturers shift the burden of sin taxes to the consumers, sometimes by a factor exceeding the sin tax rate to maintain, or in most cases, actually increase their profits and this is relevant for meeting the research objective of this paper

In sum, both the buyer and producer are required to foot the cost of new taxes imposed by the government; however, the buyer and seller may bear the cost of a new tax unequally. This depends largely on the products' elasticity; if it has high demand inelasticity in response to price; the tax is likely to be shifted by the producers to the consumer. This is called shifting and the elasticity of the product being taxed will determine the bearer of the tax, in whole or in part (tax incidence). The tax incidence, in light of cigarette's price inelasticity of demand, has an effect on demand for the product, its pricing, and subsequent revenue and profitability performance. This theory is chosen because manufacturers will instinctively want to shift the tax burden to consumers as much as they are able to and will help meet the objective of evaluating how mediating factors like demand and elasticity as well as pricing affect cigarette tax instruments and also to evaluate the effect various tax regimes have on the profitability of Kenyan cigarette makers.

2.2.3 Theory of Demand

This principle relates to the relationship between demand for goods and services by consumers and their prices and is credited to John Locke, a philosopher in the 17th century who first described the principles of demand and supply, from which the demand theory is based. However, the use of the terms supply and demand and the addition of the concept of elasticity of demand in the demand theory is credited to Alfred Marshall when he published the *Principles of Economics* in 1890. The demand curve is based on the theory of demand; the demand curve relates to the amount of available goods and the desire of consumers. The theory of demand is the basis by which demand in the open market is determined (Ekelund & Hébert, 2002).

The determinants for a products' demand include the products' price, the income of the consumers, prices of related goods and services, consumer expectations, and number of buyers in a market. Demand elasticity is the level of reactiveness for the demand of a product to changes in its price or the income of consumers. The law of demand and supply posits that when all conditions are constant, the demand for a product decreases as its price

increases and consequently, its demand will increase as its price decreases. On the supply side as price increases, the quantity produced increases and as price decreases, the quantity produced decreases. The demand price elasticity is a measure of how factors like income and product price affect the demand for that product (Landsburg, 2014).

Price elasticities are usually negative, except for the Giffen and Veblen goods that don not conform to the law of demand which have a positive elasticity. Demand elasticity of price is the ratio of the percent change in demand to the percent change in the price of a given commodity. Increased taxation of alcohol through higher excise duties results in reduced consumption of alcohol as the producers must raise the prices (transfer it to consumption of/or alcoholic beverage manufacturers (Xu & Chaloupka, 2011). For cigarettes, however, research shows that excise duty increments cause the products prices to increase but this has only a small effect on their consumption. Cigarette taxes and smoking or participation in the same by adults has a negative correlation; which is small and is usually not significant statistically. As such, only a sizeable rise in excise taxes, in the magnitude of 100% for cigarettes will decrease adult smoking by about 5% (Callison & Kaestner, 2012).

Excise taxes plays a role in discouraging consumption of specific goods that are harmful to individuals or the general public, such as cigarettes and alcohol so optimal excise taxation plays a role in helping consumers use less of the product by making it expensive (Hines Jr., 2007). Based on this theory, this study will understand how producers and consumers behave in response to changes in taxes for products and how their perception of fair taxation affects their behavior. This will go a long way in understanding how excise

taxes is moderated by elasticity and how tis impacts on the profitability of cigarette makers in Kenya

In summary, governments and regulators design taxes so that there is as little distortion and inefficiency is caused in the market as a result of the taxes. Fair taxation is premised on the principle of the ability of people to pay and this is relevant for this research because it determines whether excise taxes on cigarettes is levied fairly and whether it distorts the market; do consumers consume much less that the excise tax targets are not met, and companies suffer significant reductions in revenue and profits. This theory will meet the objective of evaluating the effects of mediating factors such as price, elasticity, and demand on the cigarette tax policy instruments.

2.3 Determinants of Profitability of Cigarette and Alcohol Manufacturers

Profitability is impacted by various factors; in the context of this study, these factors include the strength of demand, relative costs, government laws and regulations, the customers, and the state of the economy. The strength of demand directly affects sales volumes, which have a direct impact on profitability. Fashionable products will have a high demand, resulting in higher sales revenues and this will improve profitability, if other factors like cost of sales do not increase disproportionately. Customers; the response of buyers greatly impacts company profitability. Customers responses are affected by their perception of value in products, the sensitivity of buyers to price changes, and the number of buyers (WeilS, chipper & Francis, 2014). How sensitize people are to price changes greatly affects how much of the product they demand, and consequently, the profits for those companies.

Governments introduce regulations to protect consumers, encourage or discourage consumption of certain products and services, and earn revenue. This is done through regulations and taxation; if the government introduces higher taxes on a product, such as gambling to protect consumers, the demand for such services will drop as producers will be forced to raise prices. Devaluing the local currency can lead to a rise in the cost of imports, resulting in reduced profits for producers. Relative costs such as those for raw materials, energy, and production costs as well as costs of selling will result in a reduction in profits and vice versa (Weils, chipper & Francis, 2014).

2.3.1 How Excise Taxes Affect Profitability of Cigarette and Alcohol Manufacturers In Kenya, listed 'sin products' (Alcohol and Cigarettes) manufacturers have reported reduced earnings as a consequence of excise taxes increases, in addition to other social factors such as elections (Kamau, 2018). EABL, for instance, reported a 6% growth in net profits in 2017 compared to 2016, despite the effects of increased excise taxes based on a new excise tax regime introduced in 2015. The effects of excise taxes on alcoholic companies have been mixed; in 2018, EABL reported a reduction in profit due to increased excise taxes on alcohol in its Uganda market, according to the East African (2018); EABL also saw a 28% drop in profits in its 2017 half year results because of an increase in excise taxes on alcohol products (Wafula, 2017). for listed cigarette makers, increased excise taxes have been reported to lead to reduced profitability, at least in the short term (Okoth, 2017). **2.3.2** How Retail Prices affect Profitability of Cigarette and Alcohol Manufacturers Higher retail prices result in greater profit margins for manufacturers, if fixed and other operating costs remain constant. However, this is only true to the point where the high retail prices do not have a significant effect on demand and purchasing power, especially for consumers in the low-end markets. The forces of demand and supply still impact sin products in that higher prices result in decreased demand, and therefore decreased profits for cigarette and alcohol manufactures, even though their profitability per unit item sold can remain high (Chaloupka et al., 2002).

2.4 Review of Empirical Studies

The level of research on excise tax and tax regimes and how they impact revenues and profitability in the tobacco industry in Kenya is presently little, if any. A search of various university repositories and other sources of scholarly research reveal little or no literature directly related to this research topic. However, a review of literature from global repositories returns findings on how taxes, excise duties and other forms of taxation have an impact on the sales and profits of companies. Kenya has a smoking population of just about five million, a majority of who are low income earners and therefore consume the low-to mid-end, low-priced cigarette brands (Herbling, 2014).

When excise taxes are imposed, the low-end market bears the greatest brunt because the taxes are levied on a unitary basis so that the prices of low-end cigarettes rise by almost 70% while the mid to high end prices rise by a smaller percentage. In response to changes in excise duty, as happened in 2011 in Kenya, the manufacturers have to contend with different rates of price increments for both the low- and high-end cigarettes.

Mallard, in his book '*The economics companion*' used past research and reviewed a lot of literature as well as case studies. Levying taxes on producers makes them transfer some of this tax to the consumers by increasing prices for the products. The price elasticities of supply and demand determine the tax incidence, if the product has higher demand price elasticity than the supply price elasticity, the producers mostly bear the excise tax burden (Mallard, 2012).

On the other hand, if the product has a higher supply price elasticity than the demand price elasticity, the consumers mainly bear the consequence of the increase in excise tax. The tax burden when excise tax is imposed or increased for products like tobacco that have few substitutes is that consumers bear most of the tax burden as these products have inelastic demand (Mallard, 2012). The work by Mallard is comprehensive; referencing several sources of empirical research from renowned authors gives a theoretical as well as a practical contribution to the concept of price transfers and tax incidence. This will help this research in understanding who bears the tax burden for excise taxes in Kenya and how this impacts demand, how producers respond in pricing, and therefore, revenues and profits for cigarette makers.

A study on how certain business forms have an impact on product prices and subsequently, the consumer response to these prices found that oligopolies or monopolies are usually price setters and can pass levied taxes to consumers. Interest for the study was placed on the most relevant business model; oligopoly, which mirrors the Kenyan cigarette industry (Colander, 2004). According to the findings, in an oligopoly or monopoly, producers generally are price setters and for this reason, they can pass on most of the excise tax levied

on products to the consumer. Because cigarette has inelastic demand, it has a slow/ low response to changes in prices, allowing suppliers to pass the tax burden to consumers (Colander, 2004). To ensure they continue being profitable, suppliers charge a similar proportion of the equivalent excise tax increase to the consumer, so that they remain profitable even if the demand dips a little. Initially, when the excise tax is levied, it initially falls partly on the consumer to the extent of the price they pay in addition to the deadweight loss triangle while also partly falling on producers to the extent of the amount the producers pay in addition to their dead-weight loss share.

The tax burden falling on the producer is due to a reduction in the products' consumption forcing producers to reduce the inputs used to make the product. This in turn lowers the returns to investors from producing every unit of the product under a new tax regime (Colander, 2004). The author is an authority in the field and provides this research an understanding of the likely behavior of producers in respect to pricing; this will help create a connection between the company's revenues and profits in light of excise taxes.

Research into the impact excise tax has on the Kenya government revenues and consumption of alcohol and/ or cigarettes and their consumption patterns using an empirical cause and effect study design established no relationship between the consumption of alcohol and cigarettes and excise tax changes; however, there was a linear relationship between excise taxes and contribution to revenue for government. The study established that excise tax increments do not affect consumption of cigarettes and alcohol, and that other methods should be found to lower their consumption. The contributing factors to no changes in consumption are because of the demand in-elasticity of cigarettes

and alcohol to price changes (Wachuka, 2016). The research is empirical and designed appropriately for the objectives and helps guide how this research is undertaken and expected outcomes.

A study to analyze the excise taxation system in Kenya to establish the extent to which they meet their intended objectives, which are to discourage and therefore reduce the consumption of some products such as alcohol, promote equity, and raise government revenue. Using several empirical equations and data, it was established that there was additional scope to generate extra revenue for the government from excise duties. The study also established that the excise tax system in Kenya as presently set (at that time) was effective for the purposes of raising revenues; excise taxes on cigarettes in Kenya results in significant additional revenues for government and its income elasticity is close to 1 (one); excise tax in general contributes to 4.5% of Kenya's GDP (Okello, 2001). The research design, equations, analytical methods and findings are done professionally in the context of the study and provide a background to the impact of excise taxes in Xenya for cigarettes and alcohol before the introduction of the excise taxes in 2010.

Despite the tough laws in Kenya to combat smoking and make them more expensive, especially the low-end brands, the cigarette makers continue to rake in profits and achieve higher revenues, with shareholders also benefiting as earnings per share have been seen rising as well (Mwiti, 2016). The Kenyan constitution guarantees the right to health; reducing tobacco consumption in Kenya is one way public and personal health can be improved. The government uses excise taxes to help raise prices of tobacco products and hence discourage consumption as people are expected to either quit or reduce their

consumption. Kenya subjects cigarettes to excise, import duty and value added taxes (VAT). The report is a journalistic report that uses actual facts and data on company performance and therefore provides useful insights into the financial performance of cigarette makers in Kenya in light of excise taxes.

Kimosop (2011), using secondary descriptive research provides useful insights on the Kenyan tax system for cigarettes and discusses the industry in detail in an article entitled *'The Economics of Tobacco Taxation in Kenya'*. The author establishes that Kenya's excise tax system has been under constant reform in the past two decades, changing from specific tax rate to ad valorem and back to specific taxes, as well as to mixed specific and ad valorem taxes (Kimosop, 2011). The Kenyan cigarette market is oligopolistic with a few dominant players engaging in intense rivalry to gain market share; BAT is the major player with 78% and is the only listed cigarette maker, while EABL controls 50% of the total alcohol manufacturer (Kimosop, 2011). The excise tax regime in Kenya at present is very good, with high revenues from both alcohol and tobacco, contributing about 4.5% of the GDP and have income elasticity of nearly 1. The findings are useful for this research as they provide a useful background and an understanding of the Kenyan cigarette industry.

A discussion on tobacco and alcohol issues in Kenya such as consumption, taxation, production and the major players, largely for the periods between the 1990s and 2004 found that the per capita consumption of cigarettes is increasing while government revenues from cigarette taxation are increasing, although declining as a percentage of total government revenues (Mureithi, n.d). A research to investigate the effect of excise tax increases and

harmonization on cigarettes in the EAC (East African Community) established that a specific uniform tax is the most preferable structure for excise tax. The research, assuming demand price elasticity of -0.6, results in decreased cigarette consumption when excise taxes are increased; further government revenues are increased and concludes that increasing excise taxes result in better public health outcomes (reduced consumption) while government revenues increase when uniform excise taxes are used (and raised) (Jodie & Corne, 2014). Excise taxes have been found to be the most important means for increasing revenues for government as it is an indirect form of tax. Excise taxes have also led to better health outcomes as imposing these taxes result in reduced consumption (Karingi & Wanjala, 2005).

An investigation into the effect of taxation, price and cigarette consumption on company documents and the implications for the marketing strategies of tobacco companies established that tobacco companies are aware that even though cigarettes have a high level of demand in-elasticity to price changes, increased taxes and prices for tobacco products result in reduced consumption of cigarettes, especially among the young people. Consequently, cigarette makers used this information and responded by developing cheaper generic cigarette brands that were priced lower and also passed through the increased excise taxes on to the consumers. The companies responded through innovative marketing and pricing strategies involving offering discounts on multi-packs. The study concluded that cigarette makers use price related promotions and pricing as their most potent tools for marketing in order to maintain profits and revenue in light of punishing excise tax regimes (Chaloupka, Cummings, Morley & Horan, 2002). The study used an empirical model and

used actual data from the past, findings useful for the research methodology adopted in this paper.

2.5 Conceptual Framework

According to Embley & Thalheim (2011), the conceptual framework guides research through giving a visual depiction of the variables and underlying theories. Depicted below is the cause-effect pathway in which increased taxes (excise tax) on cigarettes are expected to reduce demand for the products and hence lowering cigarette manufacturers' profitability from decreased sales volumes. The Government tax policy affecting cigarettes is achieved through VAT, excise taxes, and import duties. The specific outcomes of the tax policies include increased product prices, reduced cigarette consumption, users switching to other brands or shifting to cheaper brands. The result is reduced profits and profitability for cigarette makers and reduced cigarette consumption. In this model, profitability is the dependent variable while excise tax regimes and product prices form the independent variable



Figure 1: Conceptual Model.

The profitability of listed cigarette and alcohol manufacturers in Kenya is measured using the net profit margin, which is the ratio of the net income after all expenses are deducted to the total sales revenues for the companies. Being listed forms, the ratios will be obtained from their audited annual financial statements that are public documents. The expectation from the conceptual model is that when excise taxes increase, the prices for cigarettes automatically increase, and this leads to a reduction in consumption; based on the laws of demand and supply. Ultimately the end result is a decrease in profitability for producers. On the other hand, a reduction in excise taxes encourages a price drop or unchanged prices that encourage consumption, resulting in increased profitability for the producers. However, other factors such as market conditions, availability of substitutes, and consumer sensitivity to price changes also have an impact on prices and profitability.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this section, the research design concept and research methodology are introduced; it discusses why both are important. It also discusses the methods used for data collection, the instruments and methods used for the data collection, as well as the data collection procedures. The overall research design is covered in section 3.2 while the population is covered in 3.3.1 and the sample in 3.3.2. Section 3.4 discusses the data to be utilized as well as the instruments for collecting data. The methodology for data analysis is discussed in section 3.5 and the conceptual model is discussed in section 3.6.1 while 3.6.2 discusses the analytical model and the section is summarized in section 3.7.

3.2 Research Design

This research used a causal design; causal studies are aimed at understanding phenomenon in the context of conditional statements and this type of research is used in measuring the specific impact a change in one variable will have on existing assumptions and norms. Causal effects happen when varying one independent variable phenomenon on average leads to the dependent variable phenomenon being varied. To determine causality, there must be an appropriate order of time, an empirical association, and non-spuriousness (Wrenn, Stevens & Loudon, 2007). The way decisions on research are made and how they are carried out is guided by the research paradigm. A paradigm is a system of belief that guides how things are approached and tackled during research and the formal practices used when undertaking research and range from the patterns of thought to action (Abbott & McKinney, 2012). This research design was chosen because of its suitability for meeting the research objectives and establishing an empirical association between variables and answers the causal-effect relationship between the variables.

3.3 Census Study

The population for this research consists of cigarette and alcohol manufacturers in Kenya who include BAT Kenya Ltd and EABL; and the data to be used is their financial data as reported and officially published in their audited annual financial reports and/or statements.

3.4 Data Collection

Data can either be primary or secondary; primary data is collected first hand directly for a specific study while secondary data is data used for purposes of present research though the data was collected by another entity for a different purpose. For this research secondary data was used and include data on the cigarette brands manufactured, their historical prices, the profit as reported in their financial statements and profitability indicators that were computed.

Secondary data sources and secondary data collection methods (Monsen & Van Horn, 2008) are used for this research; where the annual financial reports of BAT Kenya Limited and EABL for the period 2003 to 2018 are evaluated.

The aim was to evaluate the sales volumes and consequently, the sales revenues and the realized profits. Using a trend analysis, the sales volumes and profits for BAT and EABL were evaluated based on the times when the excise tax revenues were changed to establish their impact. Further cigarette and alcohol consumption and revenues realized by the

government from the tax changes were also evaluated using data collected by the Kenya Bureau of Statistics.

3.5 Data Analysis

Descriptive analysis using graphs as well as statistical analysis is used in data analysis as posited by Simms, (2000). The statistical analysis was done through the determination of the Pearson coefficient of correlation to test whether the performance of BAT and EABL (profitability as measured using the net profit margin) has any correlation with changes in excise duty. The statistical analysis was determined by the level of significance of the correlation to determine if it is significant. The descriptive analysis also established whether the company changed cigarette prices to reflect the new taxation and how this impacted consumption to establish the level of elasticity (demand and price) as predictors of market performance. Using verifiable and accurate data on financial reports and product pricing helped ensure the reliability and validity of the research (Abbott & McKinney, 2012). A trend-line was constructed to evaluate the profits and profitability of BAT and mastermind Tobacco during the period between 2010 and 2015 when a new excise tax regime was introduced.

3.5.1 Analytical Model

The objective of this research is to assess the impact of excise tax and price on the profits of alcohol and cigarette manufacturers in Kenya, specifically EABL and BAT Kenya Ltd. This means that while the profit was the dependent variable, the price and the excise tax was the independent variables. Hence, the conceptual model can be defined as follows; Y = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$ Where,

Y – Represents the profitability which is measured by the Net profit margin

 X_1 – Represents the excise tax

X₂ – Represents the liquidity ratio

X₃ – Represents the Market share of price

 β_0 , β_1 , β_2 and β_0 shows the coefficients of the independent variables respectively

e shows the error term.

3.5.2 Tests of Significance

The significance of the model was determined by the F test statistic. The calculated significance level (p value) was compared to the alpha value of 0.05 since the study was undertaken in 95% degrees of freedom. The test shows that there is significant effect if the p value is less than the alpha value.

The F statistic was also used to determine whether there was an effect of excise tax or not by either rejecting or failing to reject the null hypothesis. The null hypothesis stated that there is no effect of excise tax on profitability of EABL and BAT companies. The null hypothesis is rejected if the F calculated is greater than the F critical value.

3.5.3 Diagnostic Tests

The regression analysis makes various assumptions that forms conditions that must be met in order to undertake a regression analysis. The diagnostic tests undertaken by the study are normality tests, which tests whether data for each variable is from a normal distribution or not, Multicollinearity tests that tests presence or absence of multicollinearity in the variables and tests of autocorrelation.

3.6 Summary

In summary, this research used data from government and financial report of cigarette manufacturers to develop models to evaluate how excise taxes affect cigarette prices, their consumption and ultimately, the profits and revenues of cigarette makers. The research was done with ethical considerations in mind and the findings were limited to the inherent limitations in financial reporting accuracy and reliability.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

In this chapter, the research findings are presented in terms of the collected data and discusses the validity of the collected data. Descriptive statistics is then employed in analyzing the collected data and correlation between the independent variables and the dependent variable evaluated. A regression analysis between the dependent and independent variables are then analyzed and the hypothesis tested whether to be accepted or rejected. The findings are then discussed in the context of the conceptual model and the theories discussed in the theoretical review.

4.2 Response Rate

The study was for two manufacturing companies that are listed at NSE for a study period of fifteen years. All the data required was obtained and used in the analysis. This represented a response rate of 100% which according to Mugenda & Mugenda (2003) a response rate of 50% is good for analysis, 50%- 60% is very good and 60% and above is satisfactory.

4.3 Data Validity

Data validity was determined by diagnostic tests where normality tests and multicollinearity tests are undertaken.

4.3.1 Normality Test

Table 4.1: Normality Test

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Y = Net Profit Margin	2.382	.427	2.676	.833
X1 = Excise tax rate	1.266	.427	2.515	.833
X2 = Liquidity Ratio	.425	.427	453	.833
X3 = Share Price	.785	.427	454	.833
Valid N (listwise)				

Normality test was undertaken by the use of Skewness which is the leaning of data distribution to the right (positive skewness) or to the left (negative skewness). The Kurtosis is the sharpness or flatness of data. In order to test for normality by the use of skewness and kurtosis, the standard practice is that the values for skewness and kurtosis should fall within the range of +3 to -3. Variables that don't have kurtosis or skewness value falling within the range is considered not from a population with normal distribution. All values for Skewness and kurtosis in our variables are within the range and we therefore assume that data is from normal distribution populations.

4.3.2 Multi- Collinearity Test

Multi collinearity is determined by VIF values. The Variable inflation factors with values of more than 10 shows presence of multi collinearity while VIF values of less than 10 shows absence of multi collinearity. Variables with multi collinearity are dropped from the model.

Model		95.0% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
	(Constant)	-4.093	-1.686		
1	X1 = Excise Tax rate	034	005	.763	1.310
	X2 = Liquidity Ratio	.000	.041	.757	1.320
	X3 = Share Price	.403	.795	.961	1.041

Table 4.2:	Multi-c	ollinea	arity	Test
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Source: Author, 2018

All the variables have VIF values of less than 10 and therefore shows absence of multi collinearity.

4.4 Descriptive Statistics

Data was collected from the annual reports of the companies (for the listed firms -BAT Kenya and EABL). Data validity alludes to the creditability of research; this research was conducted using parameters that ensure the findings are genuine. This was assured through the use of internal validity through using instruments and methods, as well as data appropriately. The data used in computing the profitability of sin products manufacturers in Kenya is from audited annual results of the companies. The excise duty rates were obtained from the data officially published by the Kenya government under the various Finance Acts and legislation relating specifically to excise duties on cigarettes.

Further, the study was designed to gauge profitability of sin products makers in the context of excise duty regimes. The design of the research means that the findings can be generalized to different time periods, and can be used as a predictor of how profitable cigarette makers will be at various excise duty regimes. Reliability of research alludes to how repeatable the findings are; this implies that the findings from the present research can be obtained (similar findings or trends) if the same research was repeated at a different time frame or in a different setting (such as different country).

Evaluating the profitability of sin products manufacturers in Kenya with excise taxes showed that the companies' profits have continued to increase; however, when a new tax regime was introduced in July 2010, the profitability declined marginally over the previous year by 4%, showing that the introduction of a new (higher) excise tax regime in 2010 to

replace the older graduated system based on the retail sales price (RSP) for different values of cigarettes led to reduced profitability as the manufacturers had to reduce the prices. Over a 15 year period from 2003 to 2017, the results show that with the exception of 2011, cigarette manufacturers have seen increased profitability, except in periods immediately after the introduction of new and usually higher excise taxes for cigarettes. For alcohol producers, an increase in excise taxes results in depressed profitability in the immediate to medium term (4-5 years); these results are captured in Figures 1 and 2.





Figure 2: Excise tax and profitability; Source: Author (Data source- See Appendix I)

4.3 Correlation Analysis

Correlation analysis shows the Pearson's Correlation between the variables. It shows the effect of independent variables on the dependent variable. The values for correlation can either be positive or negative. Positive values indicate that the increasing the independent variable results in increase in the dependent variable while negative correlation indicates that increase in the independent variable decreases the dependent variable. The correlation can also be strong which shows that the value is closer to one than it is closer to zero or it can be weak which shows that the correlation is closer to zero than it is closer to 1.

		X1 = Excise	X2 = Liquidity	X3 = Share
	Y = Net Profit Margin	tax rate	Ratio	Price
Y = Net Profit				
Margin	1			
X1 = Excise tax				
rate	-0.2912591	1		
X2 = Liquidity				
Ratio	0.466031231	0.17483186	1	
X3 = Share Price	-0.083667983	0.764433626	0.119557714	1

 Table 4.3: Correlation Analysis Table

Source: Author, 2018

Table 4.3 shows that Excise tax is negatively correlated with profitability of these firms. It shows that increase in excise tax leads to a decrease in profitability albeit in small effect since the correlation is weak. The correlation is positively correlated to liquidity ratio which shows a substantial effect of liquidity ratio on profitability. This means that increase in liquidity ratio also results in increase in profitability.

The correlation of share price to profitability is -0.08 which is a very weak correlation, since the value is almost zero. Zero correlation suggest that there is no effect of the independent variable on the dependent variable. There is therefore very minimal effect of share price on profitability of the firms.

4.4 Regression Analysis

Regression analysis is used to determine the effect of excise tax on profitability of the both EABL and BAT companies. The regression analytical model used was represented by

 $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$

Where Y is the dependent variable (profitability) and X1, X2, and X3 are Excise tax, liquidity ratio and share prices respectively. The linear regression model was used by the study to show the effect of excise tax on profitability of EABL and BAT companies for the entire period.

4.4.1 Regression Model Summary

The regression model summary is used to determine the coefficient of determination (R Squared), which is the predictability of the dependent variable by changing the independent variables. It shows the extent to which the independent variables influence changes in the dependent variable.

Table	4.4:	Moc	lel S	Sum	mary
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Model	R	R Square	Adjusted R	Std. Error of the
			Square	Estimate
1	.828ª	.685	.649	.3173022

Source: Author, 2018

..

The regression model summary in table 4.2 shows a coefficient of determination of 68.5%. This means that the regression model used in the study can explain the changes in the dependent variable to the extent of 68.5%. The other 31.5% of the changes in the dependent variable are explained by other factors that are outside the model.

4.4.2 F Test Statistic

The F test Statistic was used to determine the significance of the model. This was done by the use of ANOVA table which determines the F value and the significance (p value) of the model. The null hypothesis of the study states that there is no effect of excise tax on profitability of both EABL and BAT companies. The null hypothesis is rejected if the calculated F value in the Anova table is greater than the critical value of 12.

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	5.699	3	1.900	18.869	.000 ^b
1	Residual	2.618	26	.101		L
	Total	8.317	29			

 Table 4.5: ANOVA

Table 4.5 shows that the F calculated value of 18.869 and the F critical value at an alpha of 0.05 with 3 and 26 degrees of freedom is given by 2.934. This shows that F calculated value is greater and we therefore reject the null hypothesis. Table 4.3 also shows that the p value is 0.000 which is less than 0.05 and therefore concludes that the effect is significant. The study therefore concludes that there is a negative statistically significant effect of excise tax on profitability of EABL and BAT companies.

4.4.3 Regression Coefficients

The coefficients of the regression model given by $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$ are determined by the table 4.6 below.

Model		Unstandardize	Instandardized Coefficients		t	Sig.
		В	Std. Error	Beta		
	(Constant)	-2.889	.586	2010	-4.934	.000
	X1 = Excise Tax	020	.007	351	-2.784	.010
1	X2 = Liquidity Ratio	.020	.010	.254	2.009	.055
	X3 = Share Price	.599	.095	.705	6.279	.000

 Table 4.6: Coefficients Table

Source: Author, 2018.

 $Y = -2.889 - 0.020X_1 + 0.020 X_2 + 0.599X_3 + 0.586$

4.5 Discussion of Results and Findings

The major results showed that there was a negative statistically significant effect of excise tax on profitability of EABL and BAT companies. This is explained by the fact that increase in excise tax does not necessarily means that prices are increased at the same rate. The increase in excise tax therefore reduces profitability of these firms. Exercise taxes also acts as a signal by the government to the general population on the adverse effects of consuming the products of these companies. The customers therefore decrease their consumption of the products which also leads to decrease in profitability of the firms.

The study also found out that increase in liquidity ratio of these firms led to increase in profitability. The correlation between liquidity ratio and profitability was positive. This means that increasing the liquidity ratio decreased the liquidity risks and therefore led to increased profitability for the firms.

Market Share price on the other hand was seen to have no effect on profitability of the two firms. This can be explained by the fact that increase or decrease in market share prices rarely affects the performance of the companies. In fact it is the performance of the company that should affect the share price but not the other way round.

A fundamental building block of economic theory is the fact that increasing (or decreasing) the price of a commodity reduces (or increases) demand for that commodity; this is based on the theory of demand. Price elasticity of demand refers to the extent to which use of a product falls or rises after increases or decreases in its price. If price elasticity of demand for a product were very low-that is, if it were inelastic-then demand would fall or rise only slightly in response to price changes. For instance, if price elasticity for a particular good were about -0.1, then demand for that good would fall by only 0.1% for every 1% increase in price. Demand would fall by 1% for a 10% increase in price, by 2% for a 20% price increase and so on. Demand for a good with high price elasticity would fall much more sharply in response to price increases. If price elasticity of demand for a good were about -1.0, then demand for that good would fall by 1% for every 1% increase in price.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section summarizes the entire research and its findings and focuses on three main areas that include the summary, the policy implications, and the limitations of this research as well as recommendations for further research. The summary and conclusion delves on the study findings while the policy implications evaluates the relevance of excise taxes as a means of discouraging tobacco products use among Kenyans. Limitations discuss the limiting factors and problems encountered during the study while recommendations for further research propose methods by which the findings from this study can further be refined.

5.2 Summary of Findings

This study sought to investigate the effect that excise tax regimes have on the profitability of listed alcohol and cigarette manufacturers in Kenya. Of particular interest was how changes in excise tax regimes, usually increments affect the profitability of the 'sin products' manufacturers. The study then evaluated how the increased taxes and the inevitable increments in cigarette and alcohol prices affected their demand, sales, and hence the profitability of the sin products manufacturers over a fifteen year period. New excise tax regimes were introduced in 2013, 2010, 2015, and recently in 2018 and the immediate effect was a reduction in the profits of the sin products manufacturers, with alcohol manufacturers seeing an immediate and medium term declines in profitability while cigarette makers had an immediate decline in profitability, however, in subsequent

years, the profitability as measured by the net profit margin (NPV) kept rising, even as cigarette prices also rose. The analytical model developed for this research and Pearson's correlation coefficient gave similar results; there is a weak but positive correlation between increase in excise duty for cigarettes and the profitability of listed cigarettes manufacturers with a positive price elasticity of demand below 1. However, for listed alcohol manufacturers, there is a weak, but negative correlation between profitability and excise taxes, with an expected negative price elasticity of demand. The findings are explained by the theories of profit maximization, the tax shifting, and the demand theories. As relates the profit maximization theory, price should be set equal to the average variable costs plus a margin for profit as this is the sole objective of any business. Producers responded to the increased excise tax by raising prices to remain profitable.

According to the tax shifting theory, the consumers bore the excise tax increment as the manufacturers shifted the extra tax to the consumer through a price increase. Based on the demand theory, increased prices reduce demand while resulting in increased supply; however, the price elasticity of demand plays a role in moderating this theory. For this study, a regression analysis and using the model showed that the profitability of the cigarette manufacturers in Kenya has a weak but positive correlation to increase in prices as a consequence of increase in excise taxes with a Pearson correlation coefficient of **-.02** and a liquidity ratio with a Pearson correlation of 0.467.

An increase in price leads to an increase in revenues; with overheads remaining constant, the profitability of cigarette manufacturers keeps increasing. This explains the findings as to why for the period under consideration, with the exception the new Ad valorem excise tax regime came into effect, the profitability of cigarette makers in Kenya has been increasing. For listed alcohol manufacturers, the analysis returned a weak but negative correlation to increase in prices as a consequence of increase in excise taxes with a Pearson correlation coefficient of **-0.02** all findings are significant at 95% confidence levels. Based on the findings, this paper therefore recommends a further study that places emphasis on the prices of different cigarettes and alcoholic beverages and incudes all other macro-economic aspects.

5.3 Conclusions and Recommendations

Changes in excise taxes affect the pricing, consumption, and the profitability of listed alcohol and cigarette manufacturers in Kenya, albeit differently. For listed alcohol manufacturers, increased excise taxes have a direct and negative correlation with profitability as manufacturers shift the excise tax burden to consumers through price increments. Based on the demand theory, consumers reduce their consumption of alcoholic products, resulting in decreased profitability for listed alcohol products manufacturers. For listed cigarette manufacturers, increased excise taxes equally lead to tax shifting to consumers through price increments. While consumption declines in the short term, it does not change much, and the manufacturers remain profitable, or become more profitable because of the low-price elasticity of demand for cigarette products with higher margins resultant from price increases.

With price elasticity of less than 1, smokers are not responsive to price changes in cigarettes, and what tends to happen is they switch to cheaper cigarettes whereas the consumers at premium segment are not responsive and continue smoking at the same rate.

Because of low price elasticity of demand, manufacturers are easily able to shift the tax burden to the consumers and therefore remain profitable, or increase their profitability.

For cigarettes there is minimal availability of alternative products hence consumers remaining with the current brands and cigarette companies increasing profitability through increased margins as price increases to compensate for any drops in volume.

If the government policy is to use excise to reduce smoking by pricing out consumers then the method is not effective.

For alcohol use there is clear linkage between excise and drop in drinking, this can be attributed to availability of alternate products which are unregulated hence maintaining low prices.

The Governments strategy of using increased excise taxes to achieve social and health benefits through reduced smoking or drinking is not very effective with respect to cigarettes, and so a different strategy should be adopted in achieving these benefits. Different strategies such as aggressive health education and health programs to rehabilitate smokers, especially the low-income segment. However, the strategy is effective for alcohol products in reducing alcohol consumption, so the government can continue this strategy (excise taxes) to reduce consumption although the government loses revenues from excise increments.

5.4 Limitations of the Study

It was a huge challenge to obtain the historical prices of goods especially for each brand, year by year.

The research did not delve into how effective warnings on cigarette labels are in discouraging more use.

The excise taxes levied on the cigarettes and alcoholic products are not similar for any given period

There were variations in the excise tax model and application methodology throughout the period under review.

Due to time constraints we were not able to research how consumers switch between regulated alcoholic market and the unregulated hence if there is a real drop in consumption due to excise tax increases; as confirmed by this research.

The findings are accurate the extent of the accuracy and veracity of the published financial statements given companies can recognize and record various financial statement items differently.

5.5 Suggestions for Further Research

It is recommended that further research be done on how excise taxes affect consumption of the sin products and how there is a shift especially to unregulated products in the case of alcohol where it is cheaply available. It is also recommended that research be done with elasticity being used among the variables.

Further research should be done on how excise taxes affect the poor and the rich differently and whether their economic status impacts demand price elasticity.

Further research is also recommended on how increase in excise affects overall revenue to the government arising from this tax.

It is recommended that primary data through interviews and questionnaires on sin products consumers be used to better understand how excise taxes affect profitability of the manufacturers in the context of demand for both the rich and the poor.

This paper suggests further research to be done to establish if reduced alcohol consumption due to increased excise taxes that lead to higher prices, cause consumers, especially in the low-income segment to switch to informal alcoholic drinks. To extend this, further research is recommended to establish the effect of increases in excise taxes on alcoholic products to consumption of illicit drinks in the informal alcoholic segment, which is very significant in Kenya.

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APPENDICES

Appendix I: Cigarette Prices over Time

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Premium Brands									
	120/140	140	140	140	140	140	140	180	180
				140	140	140	140	180	180
Middle									
Brand									
	120/140	140	140	140	140	140	140	140	140
	70/80	90	90/95	70/90	95	95	95	95	95
	80/100	100	100	90	95	95	95	125	125
Low End brands									
	60/70	70	70	70/78	78	78	78	95	95
	45/50	50	50	50/60	60	60	60	60	65
	50	50	50/60	60	60	60	60	95	95

A	pp	en	dix	2:	Data	Used
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Y = Net Profit Margin	X1 = Excise tax rate	X2 = Liquidity Ratio	X3 = Share Price
25.84	0.4	32.8	4.83
23.20	0.4	44.5	4.64
24.86	0.4	40.8	4.80
25.79	0.495	38.7	4.90
29.10	0.495	52.1	4.98
28.27	0.495	30.4	5.29
23.70	0.495	38.6	5.02
23.81	0.6	42.4	5.20
20.50	0.6	46.7	5.27
19.49	0.6	42.1	5.41
9.13	0.6	33.1	5.77
10.64	0.575	28.9	5.67
50.62	0.575	52.8	5.72
29.89	0.62	33.5	5.63
31.89	0.62	40.6	5.64
14.93	0.50	36.8	4.88
12.27	0.50	34.8	4.80
12.35	0.50	29.7	4.74
9.34	0.50	28.4	5.06
8.79	0.50	38.6	5.12
9.75	0.50	32.6	4.88
7.90	0.85	38.6	5.18
13.05	0.85	32.4	5.60
15.38	1.2	44.8	5.51
10.72	1.2	38.6	6.20
11.67	1.2	37.2	6.39
20.23	1.2	47.9	6.80
22.36	1.2	30.4	6.67
13.22	2.5	45.4	6.53
9.70	2.5	38.7	6.49