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# **Reforming the Excise Taxation on Alcohol Products in Kenya**

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# Abstract

This paper explores the excise taxation systems for alcohol products in Kenya, focusing on optimizing tax policy to enhance revenue generation and further mitigate negative externalities. Utilizing a proprietary elasticity estimation nuanced by a literature review to generate joint Laffer curves, we identify potential adjustments that could increase government revenue without causing significant market disruptions. Our findings suggest that there is a scope to raise taxes on alcohol products, which could not only boost fiscal income but also improve public health outcomes by discouraging excessive consumption. The paper proposes practical mechanisms that include a move to alcohol content-based excise system for taxation of alcoholic products in Kenya. The recommendations in the paper highlight the potential for excise taxes to contribute to economic growth and public welfare in Kenya while emphasizing the importance of stakeholder engagement and data-driven policy making.

# 1. Introduction

Excise tax is levied selectively on some goods and services to raise revenue and account for negative externalities arising from consumption of taxed goods. A central characteristic of excisable products is that they tend to have a low own-price elasticity of demand, implying a minimum shifting of consumer purchases when prices change due to the levying of excise taxes (Okello, 2001). Particularly, excise taxes are levied on alcohol products to account for negative social and health externalities surrounding the consumption of these products. Thus, taxes serve more than a revenue generating role but also a role in impacting the broader economy and safeguarding against negative externalities. In Kenya, these taxes have been updated regularly, but their optimization could serve to increase revenues by increasing the tax and/or increasing compliance while also benefiting the Kenyan public by decreasing certain health issues related to the consumption, and especially the excessive consumption, of alcohol products.

This paper reviews the excise duty structure for alcoholic beverages. It presents policy options to promote equity in taxation and revenue optimization by altering the tax structure to be based on alcoholic content. Additionally, the paper aims to align Kenya's excise tax system with international best practices and to provide a more stable and predictable system for firms. The proposed policies ensure that the excise duty rates do not fall on the wrong side of the Laffer curve and that they minimise potential market distortions. Utilizing data from the Kenya Revenue Authority (KRA), the Kenya National Bureau of Statistics (KNBS), and the alcohol industry, the paper employs a variety of methodologies to calculate own- and cross-price elasticities which are used to determine specific rate proposals. This is also informed by the production of specific Laffer Curves representing opportunities for revenue optimization. The paper further contributes to the broader literature on optimal tax policy relating to excise taxes as it employs novel methods to use available data to produce robust elasticity estimates and Laffer curves.

This paper is structured as follows. First, we introduce the excise tax on alcohol products with a description of the excise regime and motivations for the taxation of alcohol. We also outline specific issues facing policy makers and stakeholders. Then, in section 3, we determine price elasticities and present Laffer curves to motivate specific policy opportunities. Finally, we conclude with a summary of our findings as they relate to the policy environment in Kenya.

## 2. Taxing Alcohol

### **The Current Excise on Alcohol**

The excise tax regime on alcoholic products in Kenya has gone through several reforms since 1990. It has changed from largely ad valorem rates in the 1990s to mixed rates (specific and ad valorem rates) in the 2000s, and finally to specific rates

starting in 2015. The current excise tax system in Kenya taxes alcoholic products based on both their volume and alcoholic content. Alcoholic beverages are classified into five groups, which attract different excise duty rates. While the tax rates are not directly linked to the alcohol strength of the beverages, they are generally graduated based on their alcoholic content. The five categories include:

- Beer, Cider, Perry, Mead, Opaque beer, and mixtures of fermented beverages with non-alcoholic beverages.
- Powdered beer.
- Wines, including fortified wines and other alcoholic beverages obtained by the fermentation of fruits.
- Spirituous beverages of an alcoholic strength not exceeding 6%.
- Spirits of undenatured ethyl alcohol, spirits liqueurs, and other spirituous beverages of alcoholic strength exceeding 6%.

The Excise Duty Act of 2015 introduced specific excise duty rates for goods to simplify the excise tax regime. The Act also adopted inflation adjustment to ensure that the real value of tax remains constant over time, despite changes in inflation or the market value of the goods being taxed. This was achieved through periodic increases to the tax rate by the percentage change in the Consumer Price Index (CPI). With the approval of the Cabinet Secretary of the National Treasury, the Commissioner, Domestic Taxes at Kenya Revenue Authority (KRA) would adjust the specific excise tax rate by the inflation rate in the preceding financial year by not more than 10%. The prevailing rates at the time of this study (Financial Year 2023/24) were Kshs 142.44 per litre for beer, Kshs 129.53 per litre for powdered beer, Kshs 243.43 per litre for wine, and Kshs 356.42 per litre for spirits. The inflation adjustment was stopped with the enactment of the Finance Act 2023.

In Kenya, excise duties are levied on alcoholic products with an average of two rate changes annually. In the past decades there have been various reforms to the excise system including a switch from ad valorem to specific rates for alcohol in FY2003/04. The regular adjustment of the specific excise rate on alcoholic products has proved a burden for the Government of Kenya (GOK) and producers. Thus, a reform to the excise tax regime on alcoholic products is explored in this paper for four main reasons:

1. To introduce an excise tax on alcohol that adheres to international best practices as indicated through a thorough literature review and by Mansour et al (2023).
2. To better link the excise rate on alcohol to the negative externalities its consumption drives.
3. To simplify and clarify excise rates to lower the collection and filing burden.
4. To account for the presence of illicit trade in alcohol as well as other stressors for alcohol producers and the Kenyan public health system.

These four drivers for reform align with further motivations informed by engagements with the Kenya Revenue Authority (KRA) and major producers and distributors of alcohol in Kenya.

## **Motivation for Alcohol Taxation**

Across the world, excise taxation of alcohol is extremely prevalent, with more than 148 countries across the world levying some sort of excise tax on alcoholic beverages (WHO, 2024). We can understand this tax to solve four different types of issues:

- Direct externalities
- Fiscal externalities
- Internalities
- Efficient tax revenue collection

Direct externalities related to alcohol consumption are well studied and understood. An excise tax, according to conventional theory, can account for and even reduce these negative health externalities and, potentially, fiscal externalities because of reduced productivity and increased healthcare costs. In Kenya, the excise tax on alcohol is also directly related to the revenue growth goals of the Medium-Term Revenue Strategy (MTRS). The production of alcohol has limited downstream spillovers in the economy and since taxes can be levied efficiently on suppliers, it is possible that the alcohol excise tax is more efficient than other taxes such as Value Added Tax (VAT) or Personal Income Tax (PIT). The relative efficiency of the tax, coupled with its altruistic (or paternalistic as noted by Gruber and Köszegi (2001)), make its reform of interest to the GOK as a useful practice in the development of modern, data-driven tax systems.

## **Issues Facing Policy Makers and Stakeholders**

The difficult task facing policy makers is to choose a tax structure that accomplishes three things simultaneously:

1. Minimizes the externality costs associated with alcohol.
2. Generates the necessary tax revenue to align with the targets of the Medium-Term Revenue Strategy.
3. Aligns with the best practices and protects domestic production.

First, to address externalities, policy makers must recognize the unique challenges facing Kenya due to widespread consumption and production of illicit alcohol that include traditional brews. These homebrewed spirits can impose large negative externalities, and their consumption is likely to increase if excise rates are increased. The reason for this is that any increase in the excise for licensed alcohol will make illicit brews relatively cheaper, likely increasing consumption of the unrecorded (untaxed) alcohol in the country. However, navigating this difficult trade-off can be made easier through stricter enforcement measures on illicit brews. To address the revenue issue, policymakers must first understand the elasticities of demand for alcoholic beverages. This is especially important since in Kenya excise taxes

currently constitute more than 30% of the price, especially for beer (WHO, 2024). The relatively high level of Kenyan excise rates means that policy makers should be careful not to set rates so high that can reduce revenues<sup>1</sup>.

The excise system for alcohol taxation must simultaneously address the needs and concerns of the stakeholders and government. The government aims to align its excise tax policy with international best practices to ensure fairness, efficiency, and compliance. The objective is to establish tax rates that maximize revenue without imposing undue burdens on industry stakeholders, thereby safeguarding both public health and economic interests. Simplifying the excise tax regime is essential for increasing compliance and reducing administrative burdens for both the government and taxpayers. Moreover, excise taxes on alcohol are a critical tool for addressing the negative externalities associated with its consumption, such as healthcare costs and social issues.

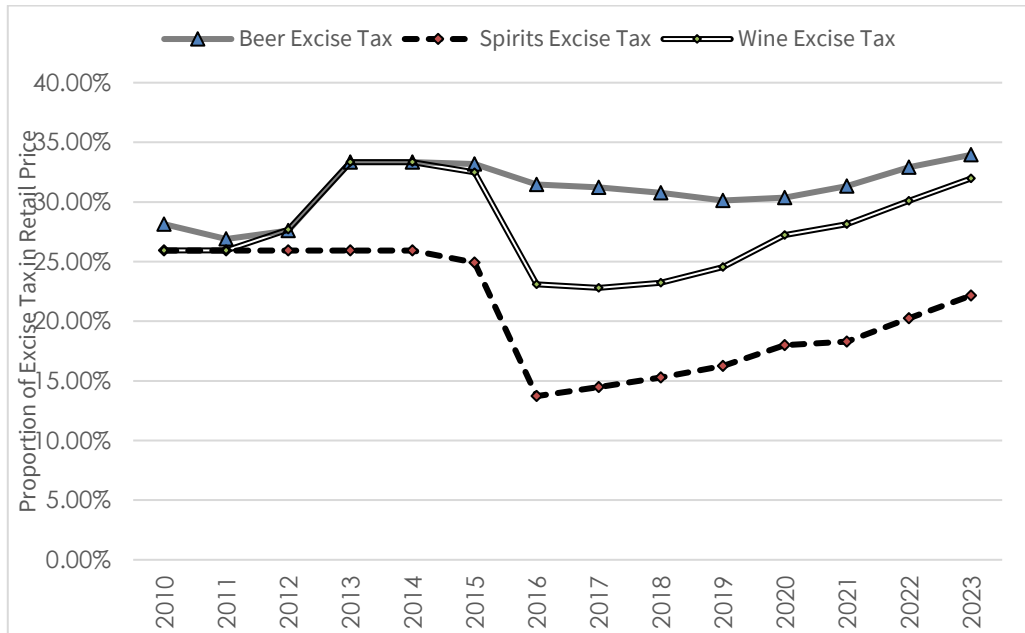
Stakeholders, such as industry players, share some of the same concerns as the government, but are also concerned with other factors specifically related to the taxation of alcohol. For instance, the current excise tax system is fraught with uncertainty, making it difficult for businesses to plan and make long-term investments. This, coupled with tax differentials between Kenya and other EAC Partner States creates a non-level playing field, disadvantaging Kenyan products. Moreover, the high incidence of smuggling and illicit production undermines legitimate businesses while negatively impacting revenues and public health. Lastly, changing consumption patterns necessitate a dynamic approach to taxation that can adapt to shifts in consumer behavior such as consumption moving from beer to spirits.

Figure 1 shows the excise tax burden per litre of beer, spirits, and wine from 2010 to 2023. It shows that the proportion of tax in each product has been slowly rising since 2016 but that each product does not share the same burden. This could indicate that there are policy opportunities for the KRA by unifying the tax based on alcohol by volume (ABV) rather than volume of the drink itself.

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<sup>1</sup> This is commonly referred to as being on “the wrong side of the Laffer curve” and refers to the case where behavioral effects are so large that increasing rates will decrease revenues.

**Figure 1: Average Excise Tax Burden per Litre**



Data Source: KRA and KNBS

Key to note is the fact that Kenya's excise rates are higher relative to other East Africa Community (EAC) partner states (see Annex 1). Additionally, some countries within EAC apply a mix of specific and *ad valorem* rates. The relatively high level of Kenyan excise rates means that policy makers should be careful not to set rates so high that they *reduce revenues*<sup>2</sup>. This necessitates the use of Laffer curves in policy analysis.

Moreover, changing to an excise tax structure based on the volume of pure alcohol per litre will align Kenya's excise tax system with international practices and recommendations (Mansour et al., 2023). However, because this will be a novel method for levying the tax in Kenya, monitoring, data collection, and enforcement measures will require updates. It will be important for the GOK to educate producers on the new policy to reduce the costs of collection in the long term. The new excise structure, based on alcohol content per litre, may be less progressive than the previous structure, but it will link the tax directly with negative externalities and provide a robust base on which future reforms can be made.

<sup>2</sup> This is commonly referred to as being on "the wrong side of the Laffer curve" and refers to the case where behavioral effects are so large that increasing rates will decrease revenues.

### 3. Findings and Policy Options

This section covers three issues. First, the differential externality of illicit brews compared to licensed ones is discussed. Then, the estimation of supply elasticities and their interpretation is covered. Lastly, the choice of tax regime and the concept of tax base spillover is investigated.

#### **Illicit Consumption**

The presence of an informal market for alcohol has important implications for the optimal design of excise taxes. Given its presence, a decrease in formal alcohol consumption no longer necessarily implies a reduction in total externality as there may be unobserved substitution to informal consumption. This informal consumption could either be illegally imported alcohol or homebrews such as chang'aa (homebrewed spirits) or busaa (homebrewed beer), both of which are prevalent, especially in rural areas (Takahashi et al., 2017). The cases of poor hygiene and homebrew-related deaths still abound (Carey et al., 2015).

In addition to the special attention placed on illicit brews it is also worth considering the way alcohol is consumed. It is widely accepted that many of the costs of alcohol stem from heavy episodic (“binge”) drinking (Mansour et al., 2023). This provides a strong argument for focusing excise taxes on reducing binge drinking specifically. To further illuminate the extent and effects of consumption of informal alcohol we analyze the Kenya Stepwise Survey for Non-Communicable Diseases Risk Factors from 2015 (Kenya National Bureau of Statistics, 2015). The representative study has 6,000 respondents aged 16-70 and allows us to further investigate alcohol use in Kenya.

From the survey, it was observed that 21.2 percent of those who consumed alcohol in the last preceding month consumed some type of homebrew. Every respondent who consumed homebrew also consumed some type of non-chang'aa brew such as busaa or fortified wine. Most of the homebrew consumers, however, also consumed chang'aa as evidenced by the fact that 19.2 percent of those who drank in the last preceding month consumed chang'aa.

To understand the differential impacts of alcohol we use a simple Ordinary Least Squares (OLS) framework. For people that consumed alcohol, those who did not consume homebrew on average had 3.3 binge-drinking episodes in the last preceding month. Those who did consume chang'aa had an average of 2.7 more episodes. This increase is both statistically and economically significant as it represents about 80 percent increase in the frequency of binge-drinking. Interestingly, other types of homebrews are not correlated with higher rates of binge-drinking as evidenced by the small negative coefficient. The same picture arises when analyzing binge drinking as those who drank but did not consume chang'aa had an average maximum consumption of around 10.4 units regardless of whether they consumed other types of homebrews. Consumption of chang'aa,

however, corresponds to an average 5 unit increase in the highest amount consumed. This increase is also highly statistically significant. This speaks unanimously to the external costs of chang'aa being far greater than those of any other type of alcohol and merits its consideration in relation to the excise tax architecture.

## Price Elasticities

The central parameters for ascertaining the revenue implications of any reform of the excise system are the own- and cross-price elasticities of various alcoholic beverages. These will uniquely identify the revenue maximizing tax rate. Many previous attempts have been made to identify these key elasticities as shown in Annex 2 (Ochieng & Agwaya, 2021; Karingi et al., 2001; Okello, 2001). However, the research underpinning this paper managed to move beyond previously unresolved issues. Specifically, the estimates explicitly account for the following factors: non-stationarity of data, within-base cross-price elasticities and simultaneity bias. For the analysis we exclude 'wine' as a specific category as it is both highly collinear with our series for spirits and as it has very small implications for revenue. This exclusion is likely to lead to a slight underestimation of the revenue effects of raising excise taxes.

We estimate a series of econometric specifications ranging from simple OLS models to co-integrated ARDL models and panel fixed-effect IV-regressions. Whilst these estimations improve upon the previous best estimates, they remain somewhat uncertain and should be interpreted with due caution. Below is a table of the estimated elasticities.

**Table 1: Supply Elasticities**

### Table of Supply Elasticities

	Beer	Spirits
Own-price	-0.85 [-1,32 ; -0.38]	-0.66 [-1.29; -0.04]
Cross-price	0.64 [ 0.53, 0.76]	0.59 [0.49; 0.69]

*Reported intervals are 95% CI with Huber-White robust std. errors*

These moderately negative own-price elasticities and moderate positive cross-price elasticities are reasonable and fit well with the conventional literature on the subject.

## Modernizing the Tax Structure

A central motivation for excise tax reform is to adhere to international best practices as described by Mansour et al (2023) and facilitate a more predictable excise regime.

An excise rate tied to the sales price of the product, may be progressive but does not reflect the central aim of excise taxes which is to account for negative externalities (Preece et al., 2018). By adopting a Pigouvian approach, linking excise rates to alcohol per litre, the rates are more tied to such externalities (Cnossen, 2007). The price of alcohol is linked to the health externalities and excise rates can directly impact pricing, further motivating the adoption of a unified scheme directly tied to health externalities (Anderson et al., 2009; Cook et al., 2005). Moreover, adopting the proposed policy and methodology can help account for cross price elasticities and consumption patterns including shifts to illicit brews that have higher negative health externalities than legally produced alcohol (Bodewes, 2010; Stacey et al., 2017).

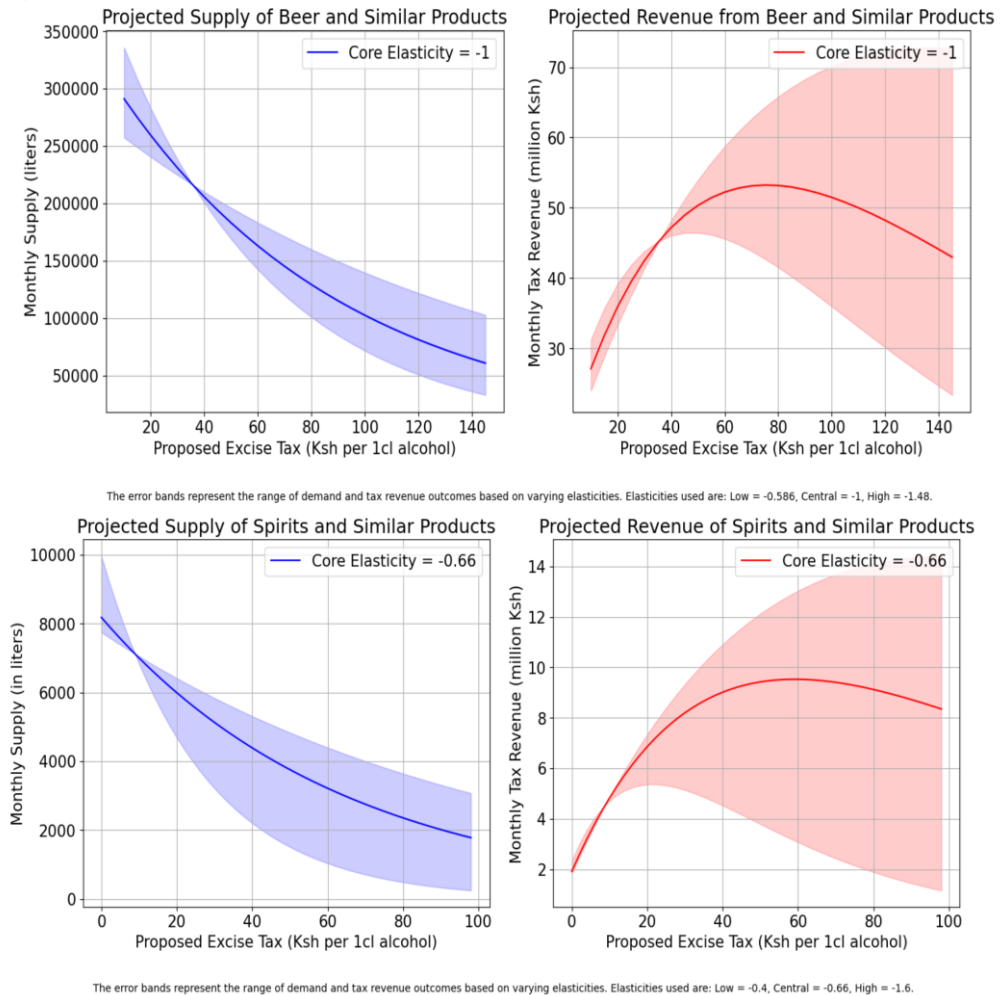
A unified excise tax scheme based on centilitre (cl) of alcohol rather than on the value of the product can be beneficial to the Government of Kenya and alcohol producers. Using the model developed for this paper, the GoK can better predict revenue implications of tax reforms as well as the demand potentialities when changes are introduced. The same principle holds true for producers who will be able to better predict and account for changes in excise rates. Thus, the unified scheme has increased transparency that can reduce issues such as evasion and avoidance, as noted by Akhor (2016), while also meeting the revenue goals outlined in the Medium-Term Revenue Strategy.

### **Tax Bases and Revenue Implications**

Given our set of estimated elasticities, we now compute the Laffer curves showing the predicted revenues for excise taxation. These of course only speak to the revenue implications of the excise tax and not the aggregate welfare consequences.

To calculate the tax projections, we make several assumptions. First, we assume that the elasticity is constant across consumption levels, Second, we assume that the excise rate has a pass-through rate of 100%. This is more likely to be true in the long run than in the short run. Lastly, we assume that the VAT rate remains constant across reforms, and we count VAT revenue on alcohol as excise revenue. Neglecting to account for the negative spillovers on the VAT tax base from increased excise taxation would overestimate the tax revenue gained from increasing excise rates. Below are the partial Laffer curves and demand functions for beer and spirits.

**Figure 2: Partial Laffer curves for beer and spirits**

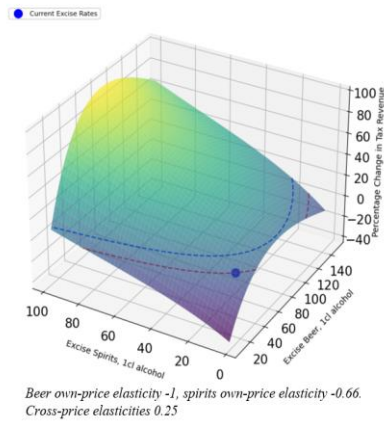


We estimate that when only looking at one excise at a time, both excise rates are currently below their revenue maximizing level. In the high-elasticity scenario, however, the current level of excise for beer is very close to the top of the Laffer curve, indicating large behavioral distortions of taxation. The rate for spirits is further from the maximizing rate which is reasonable since the Kenyan rate for spirits is closer to the global average than it is for beer.

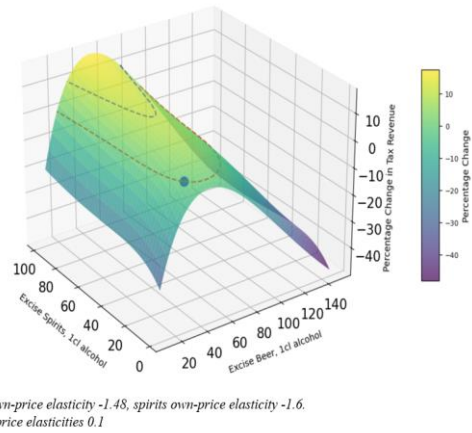
While these partial projections are useful, they omit a central component from analysis. Since beer and spirits have positive cross-price elasticities, any increase in the excise of one will increase demand for the other. Thus, a joint approach is merited.

**Figure 3: Joint Laffer curves for beer**

**Baseline Specification**



**Pessimistic Specification**



Here we see that there is ample space to increase revenues, both in the baseline and high-elasticity scenario. The highest likelihood of revenue increase occurs when excise for both goods is increased simultaneously with a larger increase for spirits than beer. Using this framework, we present three prospective policies along with their benefits and disadvantages.

From the revenue projections contained in these Laffer curves, three sets of policy options arise when factoring in the updated excise tax policy: unchanged revenues, a large 10% increase in revenues and a moderate 5% increase in revenues. These are presented below, with applicable options, as Reform 0, Reform 1 and Reform 2. We also present a third, long-term harmonization option (Reform 3).

**Reform 0 - Revenue Neutrality:**

To move to an excise tax system based on alcohol content while keeping revenues unchanged for both spirits and beer, policymakers should set an excise rate of **25 Kenya Shillings per Centilitre (Ksh/cl) for beer and 8 Ksh/cl for Spirits and wine**. Our estimates indicate that this would maintain similar revenue levels by levying a proportional tax on each type of alcohol relative to the current rates.

**Reform 1 - 10% Revenue Increase:**

In these two scenarios the government achieves a 10% increase in revenue. This does, however, come at the cost of either increasing the excise on spirits very significantly, thus risking bolstering the illicit market (reform 1.A) or increasing the already high excise on beer further (reform 1.B).

In reform 1.A the price of beer is kept constant, while a 10% increase in revenues is achieved by increasing the price of spirits by 21%. This reform considers the fact that the excise rate on beer is already relatively high in Kenya and that there is a large informal market creating sizeable externalities, so it looks at reforms that increases revenues without increasing the price of beer.

In reform 1.B, a 10% increase in revenues is achieved by increasing the price of beer slightly by 6% and that of spirits by 12%.

### **Reform 1.A**

Excise Rates:

Beer: 25 Ksh/cl

- No change in baseline excise
- No change in price

Spirits: 18 Ksh/cl

- +102% Increase in baseline excise
- +21% Increase in price

Projected Revenue Change:

Baseline: **+10%**

Pessimistic: **+3.4%**

Pros:

- + Significant Revenue increases
- + Does not increase the already high beer excise

Cons:

- Large relative change in price of spirits

### **Reform 1.B**

Excise Rates:

Beer: 29 Ksh/cl

- +15% Increase in baseline excise
- +6% Increase in price

Spirits: 14 Ksh/cl

- +57% Increase in baseline excise
- +12% Increase in price

Projected Revenue Change :

Baseline: **+10%**

Pessimistic: **+3.9%**

Pros:

- + Significant Revenue increases
- + Smaller relative price changes

Cons:

- Risk of increasing chang'aa consumption

## **Reform 2 (5% Revenue Increase):**

A drawback of Reform 1 is that large increases in excise rates run the risk of increasing the size of the illicit market which could confer large negative health consequences. Additionally, the credibility of the revenue projection deteriorates as the relative change in prices grows larger. Therefore, we also explore a second set of reforms that only achieve a 5% revenue increase instead.

### **Reform 2.A**

Excise Rates:

Beer: 25 Ksh/cl

- No change in baseline excise
- No change in price

Spirits: 14 Ksh/cl

- +57% Increase in baseline excise
- +12% Increase in price

Projected Revenue Change:

Baseline: **+5%**

Pessimistic: **+2.2%**

### **Reform 2.B**

Excise Rates:

Beer: 27 Ksh/cl

- +7% Increase in baseline excise
- +3% Increase in price

Spirits: 11 Ksh/cl

- +23% Increase in baseline excise
- +5% Increase in price

Projected Revenue Change :

Baseline: **+5%**

Pessimistic: **+2%**

### **Reform 2.C**

Excise Rates:

Beer: 23 Ksh/cl

- -8% Decrease in baseline excise
- -2% Decrease in price

Spirits: 17 Ksh/cl

- +91% Increase in baseline excise
- +19% Increase in price

Projected Revenue Change:

Baseline: **+5%**

Pessimistic: **+1.7%**

Here reform 2.A stands out as a good policy option as it simultaneously achieves an increase in revenues and an unchanged excise for beer without increasing the excise on spirits to an unfeasibly high level. Reform 2.B, limits the increase in the spirit excise rate further to 23% increase by slightly increasing the rate for beer, thus

lowering the risk of increasing the informal market. Contrarily reform 2.C lowers the excise on beer whilst increasing the rate for spirits significantly by 91%. This has the benefit of moving closer to harmonized rates for the two categories.

### **Reform 3 - Long-run harmonization:**

In reform 3, we consider a full harmonization such that all products are taxed at a rate of 26 Ksh per cl of pure alcohol. This would involve a very significant increase in the price of spirits and an unchanged price for beer. Such a large shock to prices is likely untenable in the short- and medium-term, however, in so far as policymakers wish to move towards a harmonized system in the long run, this scenario may still be of interest.

It is important to consider that the revenue projections of every scenario are sensitive to the enforcement policy chosen. If enforcement measures against illicit alcohol are strengthened alongside the reforms, then the increase in revenue is likely to be larger.

### **Reform 3**

#### Excise Rates:

Beer: 26 Ksh/cl

Spirits: 26 Ksh/cl

#### Projected Revenue Change :

Baseline: +17.3%

Pessimistic: +5.7%

While moving to an excise tax based on alcohol content, as proposed, can make the tax on alcohol more regressive, this is not necessarily a large concern. Firstly, the ultimate regressivity of excise taxes on alcohol varies by product and the health impact of such regressivity is not fully understood (Ataguba et al., 2012). However, as it is widely accepted that higher alcohol prices lead to fewer negative health impacts, it can be extrapolated that the general regressivity of the excise tax is not of concern when focusing on one of the primary goals of the tax: to reduce the negative health externalities associated with alcohol consumption (Anderson et al., 2009; Cook et al., 2005; Cnossen et al., 2007, Rehm et al., 2009). Thus, while Preece et al (2018) note that the shift from an alcohol excise based on price to alcohol content may be more regressive, such a shift better positions the excise regime to achieve its objectives.

## 4. Conclusion and Policy Implications

Our comprehensive review of the excise system on alcohol implements various methodologies to ensure a robust approach to policy recommendations. This included a thorough literature review, engagements with stakeholders, and the utilization of various methodologies to calculate own- and cross-price elasticities of beer, spirits, and wine in Kenya. The recommendations put forth in this paper are thus based on the most comprehensive and recent data available incorporating information from both the public and private sectors.

It is in the best interest of the Government of Kenya to align the excise tax on alcohol with international best practices to better tie the tax to its central purpose of accounting for the negative externalities of alcohol consumption. We explore this linkage while also incorporating the goals of the Medium-Term Revenue Strategy and the current challenges facing the KRA in collections and monitoring as well as those faced by producers and distributors of alcohol. Ensuring that stakeholders, consumers, and government needs are all considered in policymaking can secure broader support for the tax and make implementation and enforcement more successful.

We ensure the robust nature of the elasticity measurements by employing three different approaches and linking those with other calculations in Kenya and surrounding countries. With these proprietary elasticities, we generate joint Laffer curves for beer and spirits (the two largest categories by production and consumption) to determine where current tax policies fall in terms of revenue generation. We find that current policies do not fall on the wrong side of the Laffer curve but there may be room to improve the revenue generating aspect of excise without placing a high burden on producers or creating a shock for consumers. From these calculations we simulate different scenarios and come to two reform recommendations that will modernize the excise tax on alcohol and meet the goals of the GOK in reforming the excise architecture.

We find that the adoption of reform 2.A would be most conducive to current economic and political realities as the changes to be made to the collections and monitoring system would require marginally less capacity than instituting other reforms. Moreover, policy reform 2.A has a lower chance of increasing the consumption of illicit alcohol and keeping consumers within the formal market, benefiting all stakeholders. However, should the GOK seek to spread the relative increased tax burden across more products and commits to prompt changes in knowledge dissemination and collections techniques, reform 1.A or 1.B can potentially offer better revenue outcomes. The implementation of either of these reforms is dependent on an effective enforcement of measures to significantly reduce illicit alcohol trade and consumption. As it represents the largest shift in excise tax policy design since the inception of the tax in Kenya, it is paramount to the

success of the policy that monitoring, and enforcement techniques are accurate and comprehensive from the initial inception of the reforms.

The above reform options fulfill the goals of the Government of Kenya while considering the challenges facing industry stakeholders. Moreover, they are designed to better account for the negative externalities associated with the consumption of alcohol. We find that the negative externalities of alcohol consumption are mostly tied with heavy episodic drinking and that the worst health externalities most likely stem from the consumption of illicitly brewed alcohol. The elasticities calculated and their related Laffer curves indicated that these reforms could generate revenue for the GOK while not placing an undue burden on producers or instigating a large shift into the informal market.

By ensuring that monitoring and data capture at the KRA are accurate, the revenue, production, and price impacts of the reform can be closely tracked. This facilitates a more comprehensive and accurate base for policy updates to account for consumer, producer, and larger economic changes. We thus explore a third reform option (see reform 3 above) which presents a more radical approach to the change in excise policy. Increased data collection and analysis capacity following the implementation of any of the reforms under reform 1 or 2 will allow the GOK to better analyze the viability of such a long-run harmonization reform for the future. By incorporating the data-centric approach to tax analysis as in this paper with stakeholder engagements, the GOK can seek to increase revenues without negatively impacting producers and consumers.

The implementation of the updated excise strategy for alcohol will ensure that future reforms align with regional and international practices and account for the needs of the Kenyan Government and domestic alcohol producers and distributors. The proposed policy shift should be done through intelligent production monitoring flow meters that monitor the volume and the alcoholic content of the products. This will ensure that the alcoholic contents are not under-reported and that the right amount of excise tax is paid. Factors such as inflation and consumer preference changes may require future updates to this policy, but the shift to a tax on pure alcohol per litre, along with the proprietary elasticities and Laffer curve models, will facilitate informed policy updates into the future.

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# Annexes

## Annexe 1: Applicable Excise Tax Rates in the EAC Partner States, 2022/23

	Beer	Spirits	Wine
<b>Kenya</b>	<b>Beer, cider, perry, mead, opaque beer, and mixtures of fermented beverages:</b> Ksh 142/litre	<b>Spirits of undenatured ethyl alcohol; spirits and others:</b> Ksh 356/litre	<b>Wines, including fortified wines and other alcoholic beverages obtained by the fermentation of fruits:</b> Kshs 243.42/Litre
<b>Tanzania</b>	<b>Beer made of malt (stout &amp; porter):</b> Locally Produced TShs 765/ltr (Approx. Kshs 43.97/ltr) while local grown barely 620/ltr (Approx. Kshs 35.63/ltr). Imported & Others TShs 803.5/ltr (Approx. Kshs 46.18/ltr) <b>Powdered Beer:</b> Locally produced TShs NIL. Imported TShs 844/kg (Approx. Kshs 48.5/kg) <b>Non-alcoholic Beer:</b> Locally produced TShs 561.00/ltr (Approx. Kshs 32.24/ltr). Imported & Others TShs 589.05/ltr (Approx. Kshs 33.85/ltr)	Locally produced TShs 3978.00 (Approx. Kshs 228.62), Imported TShs 4386.06 (Approx. Kshs 252.07)	<b>Domestic grapes</b> content exceeding 75%, TShs 200/ltr (Approx. Kshs 11.50/ltr), Imported TShs 2,466.45 (Approx. Kshs 141.75) per litre
<b>Uganda</b>	<b>Malt beer:</b> 60% or UGshs.2050 (Approx. Kshs 76.49) per litre, whichever is higher <b>Beer whose local raw material content, excluding water, is at least 75% by weight of its constituent:</b> 30% or UGshs.650 (Approx. Kshs 24.25) per litre, whichever is higher. <b>Beer produced from barley grown and malted in Uganda:</b> 30% or UGShs.950 (Approx. Kshs 35.45) per litre, whichever is higher. <b>Opaque Beer:</b> 20% or UGShs. 230 (Approx. Kshs 8.58) per litre, whichever is higher	<b>Un-denatured spirits made from locally produced raw materials used in the production of disinfectants and sanitizers for the prevention of the spread of COVID-19:</b> 60% or UGShs.1500 (Approx. Kshs 55.97) per litre, whichever is higher <b>Un-denatured spirits made from imported raw materials:</b> 100% or UGshs. 2,500 (Approx. Kshs 93.28) per litre, whichever is higher <b>Ready to drink spirits:</b> 80% or UGshs.1700 (Approx. Kshs 63.43) per litre, whichever is higher.	<b>Wine made from locally produced raw materials:</b> 20% or UGShs. 2,000 (Approx. Kshs 74.63), per litre, whichever is higher <b>Other wines:</b> 80% or UGShs. 8,000 (Approx. Kshs 298.50), per litre, whichever is higher.
<b>Rwanda<sup>3</sup></b>	30% with locally sourced inputs and 60% for others	30% with locally sourced inputs and 70% for others	<b>Wine and liquors produced with locally sourced inputs:</b> 30% <b>Wine:</b> 70%

<sup>3</sup> <https://taxsummaries.pwc.com/rwanda/individual/other-taxes#:~:text=Excise%20duty%20of%20150%25%20is,between%205%25%20and%2015%25>

<https://taxsummaries.pwc.com/uganda/corporate/other-taxes>

<b>Burundi</b>	<b>Beer (exception of beers produced with 100% local raw materials):</b> 39,600BIF/hl (Approx. Kshs 2,163.93/hl) <b>Beer (produced with 100% local raw materials):</b> 12,030 BIF/hl (Approx. Kshs 657.38/hl)	80%	<b>Wines of all categories:</b> 125 BIF/litre (Approx. Kshs 6.83/litre)
<b>South Sudan</b>	<b>Beer from malt:</b> 50%	<b>Alcoholic strength Vol 80%:</b> 100%	<b>Wine of fresh grapes:</b> 50%
* The rates in percentages are Ad valorem, while the others are specific rates.			
** Exchange rates used for conversion are Jan - December 2023 Average Exchange Rates where; One KShs is equivalent to UGShs 26.8; TShs 17.4; BIF 18.3; RWF 8.2			

Sources: EAC Countries Excise Duty Laws

## Annex 2: Historical Estimates of Price Elasticities of Demand for Alcohol products in Kenya

Author	Method/Data	Alcoholic Product	Price Elasticity	Cross-price Elasticity
Okello (2001)	Error correction mechanism using monthly data for beer and cigarettes	Guinness	-1.13 (Short-run) -5.49 (Long-run)	0.64 (other beer) 3.850 (other beer)
	Error correction mechanism using monthly data for beer and cigarettes	Other beer	-0.74 (Short-run) -1.11 (Long-run)	0.095 (Guinness) 0.30 (Guinness)
Karingi <i>et al.</i> (2001)	OLS using monthly data	Tusker beer	-1.1 (Long-run)	0.72 (stout beer)
	OLS using monthly data	Lager beer	-1.17 Long-run	0.75 (stout beer)
	OLS using monthly data	Guinness	-2.29 Long-run	1.00 (lager beer)
Ochieng and Agwaya (2020)	Almost Ideal Demand System Model- KIHBS data 2005/06	Beer	-0.713	-0.224 (T. beer)
	Almost Ideal Demand System Model- KIHBS data 2005/06	Traditional Beer	-0.441	-0.717 (Beer)
Ochieng and Agwaya (2020)	Almost Ideal Demand System Model- KIHBS data 2015/16	Beer	-0.366	-0.094 (T. Beer)
	Almost Ideal Demand System Model- KIHBS data 2015/16	Traditional Beer	-0.755	-1.652 (Beer)

Sources: Authors' Compilation



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