On Efficiency, Equity, and Optimal Taxation: Reforming Kenya's Tax System

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1 Introduction

Kenya faces numerous challenges and complexities in formulating and implementing tax policies, undermining the effectiveness of the taxation system. These issues include structural inefficiencies like a narrow tax base, difficulties in taxing informal sectors, misalignment between the tax code and economic structure, over-reliance on key tax heads, and a complex political environment. Mandatory annual revisions through the Finance Bill introduce further obstacles due to insufficient evaluation of previous revisions and increased complexity for taxpayers/businesses. These challenges highlight the urgent need for a more strategic approach to tax policy in Kenya that balances responsiveness, economic analysis, evidence, and stability (Kemboi & Kagume, 2024).[1]

An ideal tax system efficiently generates the necessary public revenue with minimal economic distortion, ensures equity by taxing individuals fairly according to their ability to pay, maintains simplicity for ease of tax understanding and administration, ensures transparency for accountability, offers neutrality to prevent market distortions, operates cost-effectively, adapts to change flexibly, provides stable expectations for planning purposes, and has a broad tax base to avoid overburdening any single group.

Kenya's tax policy formulation and implementation face several challenges and complexities. One major issue is the lack of buoyancy in the tax system, meaning that tax revenue does not respond proportionally to the growth in GDP. This mismatch suggests that as the economy grows, the tax system fails to capture this growth adequately. This challenge is compounded by a narrow tax base, where the tax system has not effectively leveraged tax law changes to broaden the base (Mutua, 2012).[2] Improved enforcement of existing tax legislation is needed to support the tax base's growth and enable more effective revenue collection as the economy expands.

Kenya also faces difficulties with "hard to tax" sectors, particularly the highly informal sectors where tax enforcement is challenging. These sectors often elude formal taxation mechanisms, limiting the government's ability to mobilise revenue. The economic theory posits that lower taxes are desirable at this

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[1]Kemboi, L. K., & Kagume, J. (2024). Political Economy Analysis of Taxation Policy in Kenya-IEA Kenya. https://ieakenya.or.ke/?wpdmdl=3304

[2]Mutua, J M. (2012, January 1). A Citizen's Handbook on Taxation in Kenya

stage of development. There is a misalignment between the Kenyan Tax Code and the country's economic structure. This misalignment can lead to inefficiencies and challenges in effectively applying tax laws that originate from advanced economies within the Kenyan economic context.[3]

Another significant issue is the reliance on a few tax heads, with a substantial portion of regular revenue coming from income taxes, value-added taxes, and excise duty. This dependency on a limited number of sectors for tax collection poses risks if these sectors experience downturns. The complexity of the policy environment also adds to the challenges, as tax policy formulation and implementation occur within a complex political ecosystem influenced by various structural and institutional factors. Asymmetries of information and access and formal and informal processes affect policy changes towards optimal taxation.

Incoherence in taxation policy further complicates the landscape, presenting challenges in mobilising economic agents to fulfil their tax obligations. Tax mechanisms must avoid adverse economic impacts and be robust enough to withstand policy changes without causing significant cost increases. This social and technical acceptability requirement adds to the intricacy of formulating an effective tax policy.

Mandatory annual revisions of the tax code in Kenya's Finance Bill present several challenges that can impact the effectiveness of the taxation system. One significant issue is the insufficient evaluation of tax proposals and their prior performance. The Finance Bill revises the tax code annually without necessarily analysing the outcomes of previous revisions. There may not be enough time to robustly check whether the changes have worked as intended before enacting new ones. This can result in a lack of understanding of the implications of tax policies and potentially result in ineffective or counterproductive measures.

The Finance Bill's status as an omnibus bill poses further complications in taxing the Kenyans. Combining several measures into one piece of legislation can limit debate and scrutiny, as members of Parliament may not have the capacity to examine each component thoroughly. This consolidation reduces the opportunity for careful review and amendment of individual tax measures, undermining transparency and possibly the democratic process.

The tax code, especially its multifaceted nature, becomes complex with each annual revision, making it harder for taxpayers to comprehend and comply with the attendant regulations. This can also heighten the administrative burden on the Kenya Revenue Authority, reducing the efficiency of tax administration and collection. Moreover, while these annual changes aim to adapt the tax system to economic shifts, frequent changes can cause instability and unpredictability for taxpayers and businesses. This unpredictability can erode taxpayer confidence and negatively affect economic decision-making.

The necessity for annual changes may also lead to policy incoherence, where short-term objectives overshadow long-term fiscal goals and strategies. This misalignment can reduce the overall effectiveness of the tax system in the long run. The pressure to revise the tax code yearly can result in rushed legislation. When tax proposals are not given sufficient time for proper public participation or expert input, the quality of tax reforms is compromised.

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[3]Ibid

2 Methodology

This study employs a mixed-method approach, combining qualitative and quantitative research to analyse Kenya's tax system's efficiency, equity, and overall optimality. A thorough literature review will establish the theoretical frameworks and identify critical issues and trade-offs in Kenya's tax policy. Key sources include academic journals, books, government reports, and policy papers. Secondary data will be collected from government publications such as reports, budget statements, tax revenue data from the Kenya Revenue Authority (KRA) and the National Treasury, and economic data from the Kenya National Bureau of Statistics (KNBS).

Descriptive statistics will summarise the data, providing an overview of the tax system. Conventional tax concepts such as tax buoyancy and elasticity will examine the relationship between tax policies and economic outcomes such as revenue generation and growth. Comparative analysis will highlight best practices from other countries' tax reforms. Case studies of specific tax Policies in Kenya will illustrate the impact of particular policies on efficiency, equity, and optimal taxation, including their design, implementation, and outcomes. A policy analysis framework will evaluate existing tax policies and proposed reforms based on criteria such as economic efficiency, equity, administrative feasibility, and political acceptability to develop key messages.

3 Study Objectives

This study examines Kenya's taxation system. The study objectives are set out below;

1. Evaluate the efficiency of Kenya's taxation system and analyse how well it generates revenue without distorting economic activity.
2. Assess its equity to determine the fairness of the tax burden distribution across income groups and sectors.
3. Identify optimal taxation strategies to propose reforms that balance revenue generation with fairness, considering the Kenyan context and international best practices.

4 Why are Efficiency, Equity, and Optimal Taxation Measures Critical to Kenya's Tax System Reform?

An analysis of Kenya's tax system using the concepts of efficiency, equity, and optimal taxation is crucial for several reasons. Efficiency pertains to the cost-effectiveness of tax collection and the degree to which taxes affect economic behaviour. An efficient tax system minimises administrative and compliance costs and reduces economic distortions, such as disincentives to work or save. By analysing efficiency, policymakers can identify and address inefficient tax practices, such as overly complex regulations, that lead to reduced compliance and higher collection costs. This ensures that tax administration is streamlined and taxpayer compliance is enhanced, thereby maximising revenue collection at minimal cost.

Equity in taxation assesses whether the tax burden is distributed fairly among individuals and enterprises. Vertical equity adheres to the principle that taxpayers with a higher ability to pay should contribute more, while horizontal equity ensures that those in similar financial situations pay similar taxes. An analysis of equity can determine if Kenya's tax system is progressive, placing a more significant burden on the wealthy, or regressive, putting a more considerable burden on the poor. This evaluation is essential for adjusting policies to ensure a fairer tax structure, promoting social justice and reducing income inequality.

Optimal taxation involves setting tax rates and structures to maximise social welfare without significantly harming economic growth. According to the optimal taxation theory, taxes should be levied where they will cause the least possible market distortion. Analysing optimal taxation in Kenya can inform policymakers on balancing generating sufficient revenue for public services and investments while minimising adverse effects on economic efficiency and growth. This balance is vital for fostering a healthy economic environment that supports sustainable development and reduces poverty.

By applying these concepts to analyse Kenya's tax system, policymakers can gain insights into necessary reforms to enhance the tax system's responsiveness to economic changes, improve compliance, and increase revenues without hindering economic growth. Such analysis can help ensure a fair tax burden among the population, addressing the challenges of "hard to tax" sectors and adapting to a rapidly changing economy and society. This comprehensive approach to tax policy can lead to a more robust, equitable, and effective taxation system that supports Kenya's development goals.

The impact of tax elasticity on lower-income households is particularly pronounced when considering essential goods. These goods, characterised by their low price elasticity of demand, constitute a significant portion of expenditure for low-income individuals. Consequently, when taxes are levied on such necessities, the burden disproportionately falls on these individuals due to their limited disposable income and constrained consumption flexibility. To elaborate, a high tax elasticity for essential goods implies that even a small increase in price resulting from the Tax can lead to a substantial decrease in consumption. This phenomenon arises because lower-income households operate with tighter budget constraints and possess fewer alternatives to substitute these essential goods. As a result, the tax burden becomes regressive, representing a larger proportion of their income compared to higher-income households.

Furthermore, the income elasticity of demand for certain goods adds another layer of complexity. For instance, individuals might transition from inferior goods to normal or superior goods as income rises. This shift in consumption patterns can influence the overall impact of taxes on different income groups. Imposing taxes on highly elastic goods, particularly those deemed essential, can exacerbate income inequality and perpetuate a cycle of poverty. The reduced purchasing power from such taxes can limit access to vital resources like education, healthcare, and entrepreneurial opportunities, hindering upward mobility for low-income individuals.

5 Definition of Key Concepts

5.1. Efficiency in a Taxation System

Efficiency in a tax system refers to the degree to which the system manages to raise revenue without causing excessive distortions or disincentives in economic behaviour (Stantcheva, 2021). [4] An efficient tax system minimises the impact on individuals' decisions regarding work, savings, investment, and consumption, allowing resources to be allocated toward their most productive use without significantly altering market-based outcomes (Elkins, 2006).[5]

An efficient tax system has several characteristics:

1. These should cause minimal distortion of economic decisions like getting into the labour market, saving, investing, and consumption.
2. A broader base can decrease the need for high tax rates, thus reducing distortions and the burden on any specific group.
3. The costs for taxpayers to comply with the tax laws and for the government to administer the tax system should be as low as possible.
4. It should raise enough revenue to fund government services without resorting to excessive debt.
5. Rules and obligations should be clear so taxpayers understand how taxes are assessed and spent.
6. Simplicity: Complexity should be minimised to avoid burdensome administration and unintentional non-compliance.
7. It should avoid favouring one type of economic activity over another unless it is a deliberate policy choice (Neutrality).
8. Tax laws should be stable over time to allow for long-term planning by individuals and businesses (Predictability).

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[4]Stantcheva, S. (2021, September 1). Lecture 3: Tax Incidence and Efficiency Costs of Taxation. https://scholar.harvard.edu/files/stantcheva/files/ec1410_tax_incidence.pdf

[5]Elkins, D. (2006, March 28). Horizontal Equity as a Principle of Tax Theory. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=892022

9. The system should be able to adjust to changing economic conditions without needing frequent major revisions (Flexibility).
10. Efficiency in a tax system pertains to how well it raises the necessary revenue with the least cost in terms of economic distortions and administrative burden.

5.2. Concepts related to the Efficiency of the Tax System

Two other key concepts are related to the efficiency of a tax system. Tax wedges and deadweight loss are key factors that determine the efficiency of a tax system.

1. Tax Wedge

A tax wedge is the difference between an activity's pre-tax and post-tax return. It measures the additional cost taxation imposes on transactions or activities, such as labour or consumption (Özker, 2020).[6] A bigger tax wedge can lead to more significant changes in behaviour as individuals and businesses adjust their activities to mitigate the impact of taxes, potentially leading to less efficient outcomes.

2. Deadweight Loss

This represents the loss of economic efficiency that occurs when the tax wedge causes individuals and firms to alter their behaviour in a way that reduces their welfare without a corresponding increase in revenue for the government. It refers to the foregone economic activity that would have otherwise occurred without the Tax (Fegley et al., 2021)[7]. The factors contributing to a deadweight loss in a tax system are as follows.

1. **Elasticities of Supply and Demand:** These measure how buyers and sellers react to taxation-induced price changes. Greater elasticity means that individuals are more sensitive to price changes, which leads to larger changes in the quantity bought and sold due to a tax, thus increasing deadweight loss (Agwaya & Ochieng, 2021) .
2. **Size of the Tax Rate:** Larger taxes result in bigger tax wedges between the price buyers pay and the price sellers receive (Sørensen et al., 2014).[9] This can significantly deter the number of transactions, leading to a higher deadweight loss.
3. **Tax Structure**: Taxes that have numerous exemptions, high rates, or are levied on a narrow base can create more distortions and, thus, a larger deadweight loss than broad-based, flat, or lower-rate taxes.
4. **Type of Good or Service Taxed:** Goods or services that are necessities with few substitutes have inelastic demand. Taxes on such goods may produce less deadweight loss than luxury goods with more elastic demand but also have the disadvantage that they could increase poverty.

[6]Özker, A N. (2020, July 1). Tax Wedge Phenomenon and Its Possible Analytical Impacts on the Investments in OECD. , 8(2), 41-53. https://doi.org/https://doi.org/10.13189/ujaf.2020.08020

[7]Fegley, T., Hansen, K M., & Israel, K. (2021, January 1). A causal-realist analysis of deadweight loss from taxation. RELX Group (Netherlands). https://doi.org/https://doi.org/10.2139/ssrn.3745017

[8]Agwaya, R., & Ochieng, J. (2021, August 5). Demand Elasticities of Excisable Goods in Kenya: Estimation Using Almost Ideal Demand System. , 1(3), 16-32. http://uonjournals.uonbi.ac.ke/ojs/index.php/ffd/article/download/776/745

[9]Sørensen, P B., Englund, P., Heikensten, L., Kolm, A., Kreiner, C T., Kristofferson, A., Sandmo, A., Åsa-Pia, J., & Bergström, M. (2014, June 11). Measuring the deadweight loss from taxation in a small open economy: A general method with an application to Sweden. https://www.sciencedirect.com/science/article/pii/S0047272714001418

5.3. Analysis of the Relationship of Tax Wedges, Deadweight Loss, and Efficiency of the Tax System

Larger tax wedges lead to greater deadweight losses, indicating a less efficient tax system. Conversely, smaller tax wedges result in lower deadweight losses, signifying a more efficient tax system.

i.   **Behavioural Response:** When a tax wedge is introduced or increased, it affects incentives. Suppose the tax wedge is substantial between taxed and untaxed activities. In that case, it may lead individuals to change their behaviour, such as working less, saving less, or avoiding taxed goods, leading to efficiency losses.

ii.   **The magnitude of Deadweight Loss:** The amount of deadweight loss depends on the elasticity of supply and demand for the taxed item or service. A highly elastic demand or supply curve means a small tax significantly reduces the quantity demanded, resulting in a larger deadweight loss. Conversely, the deadweight loss will be smaller if the demand or supply is inelastic. To determine the efficiency of a tax system, we must consider its ability to minimise tax wedges and deadweight losses. An efficient tax system aims to limit the impact of taxes on individuals' economic choices, thereby reducing distortions in market outcomes. Tax wedges distort economic decisions by their nature, leading to deadweight losses. Therefore, an efficient tax system strives to raise necessary revenue while minimising these distortions and the associated deadweight losses. Deadweight loss impacts overall economic efficiency as follows

1. **Reducing Total Surplus:** Deadweight loss reflects a net loss to society because the loss in consumer and producer surplus due to the Tax is not fully transferred to the government as tax revenue.
2. **Altering Behaviour:** Taxes can change individuals' consumption, saving, and work behaviour, resulting in a less-than-optimal allocation of resources and a loss of economic output.
3. **Discouraging Economic Activity:** High deadweight losses can lead to reduced economic activity. For instance, high taxes on labour can discourage work effort, while high taxes on capital can discourage investment.
4. **Inefficiency in Market Outcomes:** Deadweight loss indicates that the market is not operating at peak efficiency and that potential welfare gains from trade are not realised due to tax-induced price distortions.

5.4. Principles of Reducing Deadweight Loss and Improving Tax Efficiency through Tax Reform

A well-designed tax system promotes economic growth, ensures fairness, and maintains a stable society. Key principles for building a sound tax system include broadening the tax base, simplifying the tax code, lowering marginal tax rates, shifting towards consumption-based taxation, adhering to tax neutrality, implementing predictable tax policies, ensuring transparency and fairness, and using economic principles to guide tax expenditures as shown on the next page - 15.

Broadening the tax base involves taxing a wider range of goods, services, or income sources. This approach can lower tax rates while maintaining overall revenue, reducing the incentive for tax avoidance and evasion.

By spreading the tax burden more evenly, creating a fairer tax system that supports economic stability and growth is possible (Engen & Skinner, 1996). [10]

Simplifying the tax code is crucial for reducing compliance costs for taxpayers and administrative expenses for tax authorities. A less complex tax system minimises opportunities for tax arbitrage and makes it easier for individuals and businesses to comply with tax regulations. This simplification fosters a more efficient tax administration and a more equitable tax environment (Gale, 2001). [11]

Lowering and flattening marginal tax rates can significantly reduce the disincentives for additional work or investment. High marginal tax rates often discourage people from earning more or investing, as a larger portion of their additional income is taxed. Flattening these rates makes the tax burden more predictable across different income groups, addressing equity concerns and promoting economic activity (Brendon, 2013). [12]

Shifting towards consumption taxation, such as sales or value-added taxes (VAT), can encourage saving and investment. Unlike income taxes, consumption-based taxes do not penalise income generation but rather tax spending, which can lead to a larger capital stock and improved economic efficiency. This shift can create a more growth-friendly tax environment that supports long-term economic development (Hakim et al., 2022). [13]

Tax neutrality is an important principle where taxes should avoid favouring one economic activity or behaviour over another. Resources can be allocated according to market forces rather than tax considerations by ensuring that tax policies do not distort economic decisions. This neutrality promotes an efficient and competitive economy (Furman, 2008). [14] Implementing predictable tax policies is essential for economic growth. Stable and predictable tax regulations allow businesses and individuals to make long-term investment decisions confidently. Such predictability reduces uncertainty and fosters a favourable environment for economic planning and development (Barro, 1981). [15]

Ensuring transparency and fairness in the tax system helps taxpayers understand how taxes are levied and how the revenue is utilised. Transparency builds trust in the tax system, and perceived fairness can increase voluntary compliance. A transparent and fair tax system supports social cohesion and enhances the legitimacy of the tax authority. Using economic principles to guide tax expenditures ensures that tax incentives are effective and beneficial to the economy. Tax incentives should be based on sound economic principles, be temporary, and be subject to periodic review for their effectiveness. This approach helps achieve desired economic outcomes without leading to excessive fiscal costs or market distortions.

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[10]Engen, E M., & Skinner, J. (1996, November 1). Taxation and Economic Growth. https://doi.org/10.3386/w5826

[11]Gale, W G. (2001, July 17). Tax Simplification: Issues and Options. RELX Group (Netherlands). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=282520

[12]Brendon, C. (2013, January 1). Efficiency, equity, and optimal income taxation

[13]Hakim, T A., Karia, A A., David, J., Ginsad, R., Lokman, N., & Zolkafli, S. (2022, November 20). Impact of direct and indirect taxes on economic development: A comparison between developed and developing countries. https://doi.org/10.1080/23322039.2022.2141423

[14]Furman, J. (2008, April 15). The Concept of Neutrality in Tax Policy

[15]Barro, R J. (1981, February 1). On the Predictability of Tax—Rate Changes

6 Optimal Taxation

Optimal taxation involves designing a tax system that maximises social welfare while minimising economic distortions and inequity concerns. This means balancing efficiency and minimising economic distortions, such as reducing work incentives or saving and promoting equity by distributing the tax burden fairly. In Kenya, this is deemed as political and is the domain of Parliament. Parliament has significant constitutional power to determine budgets' form, timing, content, and revenue-raising measures.

The ideal tax structure may vary based on an economy's specific goals and circumstances but generally aims to generate required government revenue with minimal impact on economic growth and individual welfare. Optimal taxation theory often focuses on determining tax rates and systems that lead to efficient resource allocation and fair outcomes without excessively restraining economic activity. This requires intricate modelling of economic behaviours, preferences, income distribution, spending habits, and savings rates (Mankiw et al., 2009)[16]. Diamond and Mirrlees (2016) explain that the main objective of optimal taxation is to maintain low to moderate tax rates while generating sufficient revenue for government expenditures and public goods.[17]

While seemingly intuitive, earmarking revenue for specific purposes undermines the principles of a good tax system. This argument finds strong support in the work of Nobel laureate James A. Mirrlees, whose contributions to optimal taxation theory provide a robust framework for evaluating tax policy. In his seminal work "Tax by Design", Mirrlees argues that a good tax system should prioritise minimising economic inefficiencies and administrative burdens while remaining transparent and equitable. Earmarking, however, directly contradicts these principles. Earmarking undermines the fundamental purpose of a tax system, which is to generate revenue to meet overall spending needs. By rigidly linking specific revenue streams to predetermined expenditures, earmarking introduces artificial constraints on resource allocation. This can lead to suboptimal outcomes, as funds may not be directed to areas most needed or yield the highest social benefit.

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[16]Mankiw, N G., Weinzierl, M., & Yagan, D. (2009, November 1). Optimal Taxation in Theory and Practice. American Economic Association, 23(4), 147-174. https://doi.org/https://doi.org/10.1257/jep.23.4.147

[17]Diamond, P A., & Mirrlees, J A. (2016, January 1). Optimal Taxation and Public Production II: Tax Rules. American Economic Association, 61(3), 261-278. https://ideas.repec.org/a/aea/aecrev/v61y1971i3p261-78.html

Moreover, as Mirrlees aptly points out, earmarking can be deceptive. It creates an illusion of taxpayer control over government spending, which rarely reflects reality. Instead of enhancing democratic accountability, earmarking often serves as a political tool, misleading taxpayers about the true nature of fiscal policy.

Therefore, a well-designed tax system should prioritise flexibility and efficiency. Instead of earmarking, governments should establish transparent budgetary processes that allow for rational resource allocation based on comprehensive needs assessments and objective cost-benefit analyses. This approach ensures that tax revenues are utilised effectively to maximise societal welfare and promote equitable outcomes.

Principles of optimal taxation guide how taxes should be structured to achieve specific economic objectives, typically efficiency and equity, while minimising the adverse effects of taxation on the economy. Here are some fundamental principles of optimal taxation that we have developed using Diamond &Mirrless and Mankiw et al. typology:

1. **Efficiency:** Taxation should minimise disturbance to economic decision-making and reduce inefficiencies.
2. **Equity:** The tax system must be just, with individuals contributing based on their financial capacity.
3. **Simplicity**: The tax system must be easy to comprehend and adhere to to reduce administrative and compliance expenses.
4. **Transparency:** Taxpayers need a clear understanding of tax regulations and how taxes are computed.
5. **Administrative Efficiency:** The taxation framework should be straightforward and cost-effective for administration.
6. **Neutrality:** Taxes should strive not to favour one type of economic activity or decision unless non-neutrality is part of the policy objective (e.g., taxing negative externalities).
7. **Flexibility:** The system needs to adjust to changes in economic conditions without necessitating significant revisions.

7 Equity in the Tax System

In taxation, equity is considered in terms of how fair the tax system is to individuals in different circumstances. There are primarily two types of equity considered in tax theory: horizontal equity and vertical equity.

7.1. Horizontal Equity

This principle stipulates that individuals who are in similar financial situations should pay a similar amount in taxes. The idea is that if two people are equally well-off, their tax burdens should be the same. It assumes that taxpayers have an equivalent capacity to pay taxes and recognises the fairness of treating equals equally (Elkins, 2006).

7.2. Vertical Equity

This concept involves the notion that taxpayers who are better off should pay more in taxes than those who are less well-off. This principle is typically implemented through a progressive tax rate system, in which tax rates increase as income increases, on the assumption that the ability to pay taxes rises faster than income. Both horizontal and vertical equity attempt to make the tax system fair, but they do so by considering different aspects of taxpayers' circumstances – horizontal equity looks at taxpayers in similar situations. In contrast, vertical equity focuses on the differences in taxpayers' ability to pay based on their income or wealth (Elkins, 2006).

# 8 Efficiency Versus Equity Principles in Kenya's Taxation System: What Trade-Offs Exist

8.1. Distribution of Burden

The Constitution of Kenya, in Article 201 on the Principles of Public Finance, states explicitly that "the burden of taxation shall be shared fairly". This principle emphasises the intention to create an equitable tax system where the responsibility of contributing to public finances is distributed justly among the Kenyan population.

Kenya's tax system relies on a balanced mix of direct and indirect taxes to generate revenue, as shown in Annex 1. Income tax, levied on the earnings of individuals and corporations, forms the system's backbone, consistently contributing around 45% of total tax revenue. This highlights a clear emphasis on taxing income directly at the source. Alongside income tax, other direct taxes, including those on property and capital gains, play a role, although their contribution fluctuates yearly.

Value Added Tax is prominent, averaging about 26% of revenue. Applied to goods and services at each stage of production and distribution, VAT effectively taxes consumption. Excise Duty, another significant indirect tax, averages around 12% and targets specific goods like fuel, alcohol, and tobacco, often categorised as demerit goods due to their potential negative externalities. While providing a steady revenue stream, this balanced approach requires careful management. The reliance on consumption-based taxes like VAT and Excise Duty necessitates ongoing evaluation to mitigate potential regressive impacts on lower-income groups.

Chart: Composition of Ordinary Revenue (%, Share)
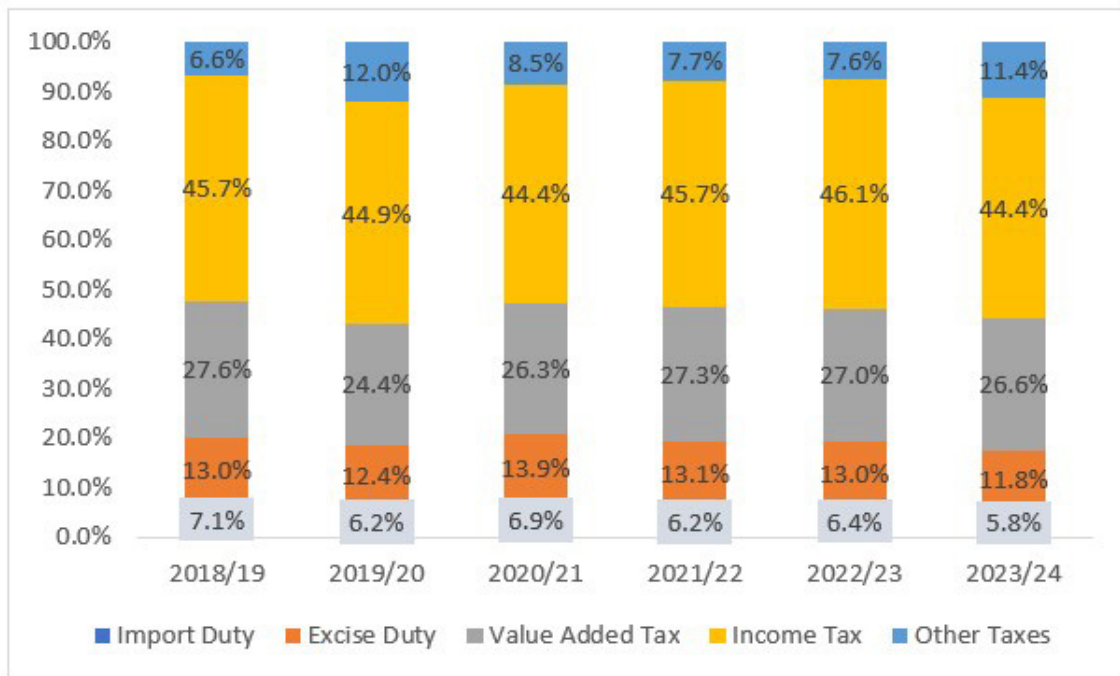
Source: own calculation from Statistical Annex to The Budget Statement for The Fiscal Year 2024/2025

The data shows a consistent upward trend in income tax revenue collection, both in absolute terms and as a proportion of total ordinary revenue. This suggests a move towards a more progressive system where those with higher incomes (presumably from the formal sector) contribute a larger share. While income tax is important, the increase in categories such as VAT and Excise Duty is substantial. While potentially regressive in isolation, these consumption-based taxes can still contribute to a fairer system if revenue is used effectively for redistribution and public services that benefit all citizens. With only 3 million out of 22 million Kenyans in the formal sector contributing to income tax, the burden falls disproportionately on this smaller group. This raises concerns about horizontal equity, as those in informal sectors with potentially similar incomes might contribute less.

The National Treasury and Economic Planning reached an assessment that while often considered a necessary source of government revenue, Value Added Tax can have detrimental effects on household expenditures and poverty rates, particularly among the most vulnerable populations. This argument is substantiated by the National Treasury's Kenya Comprehensive Public Expenditure Review, which highlights the disproportionate burden VAT places on low-income households. Although the report suggests that VAT in Kenya is "mildly progressive," with its burden distributed relatively proportionally to market income, a closer examination reveals a concerning reality. The bottom 40% of households bear 12.4% to 14.1% of the VAT burden, compared to their 14.3% share of market income. This disparity becomes even more pronounced when considering the average share of VAT in total household expenditure, which stands at 8.4% when exempt items are zero-rated and 9.0% when taxed at the standard 16% rate. [18]

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[18]The National Treasury and Planning. Comprehensive Public Expenditure Review: From Evidence to Policy. Government of the Republic of Kenya, Nov. 2018.

Furthermore, the report states that "the poverty rate increases by more than five percentage points after VAT is accounted for". This finding is consistent with trends observed across Sub-Saharan Africa, where indirect taxes like VAT often lead to a substantial increase in poverty. For instance, the poverty headcount using the $1.25 poverty line experiences an uptick ranging from 0.3 percentage points in Uganda to a staggering 7.9 percentage points in Tanzania. Kenya falls closer to the higher end of this spectrum, with a 5.9 percentage point increase in poverty. These figures underscore the regressive nature of VAT, as it disproportionately impacts those with the least ability to bear its burden. While VAT may appear as a broad-based consumption tax, its implementation can exacerbate existing inequalities and hinder efforts to alleviate poverty.

8.2. Kenya's Tax Buoyancy

Tax buoyancy is an economic measure that indicates the responsiveness of tax revenue growth to changes in GDP. It reflects how effectively a country's tax system generates additional revenue as the economy expands (Omondi et al., 2014).[19] Tax Buoyancy is the percentage change in tax revenue divided by the percentage change in GDP. Tax buoyancy tells us how much tax revenue increases (or decreases) for every 1% increase (or decrease) in GDP (Gupta et al., 2022).[20]

When tax buoyancy is greater than 1, it signifies a healthy revenue system. Tax revenue is outpacing GDP growth, indicating the tax system effectively captures economic expansion's benefits. This could be due to a progressive tax structure where higher earners contribute more, a broadening tax base incorporating more individuals and businesses, improved tax compliance and enforcement, or robust growth in highly taxed sectors. Conversely, a tax buoyancy below 1 suggests a system not fully capitalising on economic growth. Tax revenue lags behind GDP, potentially due to a regressive tax structure disproportionately impacting lower earners, a narrow tax base with limited coverage, prevalent tax evasion or avoidance, sluggish growth in highly taxed sectors, or overly generous tax exemptions and deductions. A buoyancy equal to 1 represents a proportional relationship between tax revenue and GDP growth. The tax system neither exceeds nor falls short of capturing economic expansion gains in this case.

I use 2016/17 to 2023/24 data to calculate tax buoyancy (shown in Annex 1). Kenya's tax system has shown fluctuating buoyancy levels from 2016/17 to 2023/24, reflecting varying effectiveness in capturing economic growth through taxation. While buoyancy has been inconsistent, a positive trend emerged from 2020/21 onwards. When I examined specific tax categories, I revealed further insights.

1. **Import Duty:** This category has generally lagged behind GDP growth, suggesting a potential reliance on other revenue sources or the influence of trade policies and import composition.

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[19]Omondi, Ochieng V., et al. "Effects of Tax Reforms on Buoyancy and Elasticity of the Tax System in Kenya: 1963–2010." International Journal of Economics and Finance 6.10 (2014).

[20]Gupta, Sanjeev, João Tovar Jalles, and Jianhong Liu. "Tax Buoyancy in Sub-Saharan Africa and its Determinants." International Tax and Public Finance 29.4 (2022): 890.

2. **Excise Duty:** Highly susceptible to fluctuations, excise duty revenue is directly impacted by changes in tax rates on specific goods like alcohol, tobacco, and fuel. Additionally, consumer behaviour shifts, driven by economic conditions or government campaigns, significantly affect volatility.
3. **Value Added Tax**: As a reliable revenue generator, VAT has consistently outperformed other categories, often exceeding GDP growth.
4. **Income Tax:** While initially demonstrating relatively low buoyancy, income tax revenue has shown a significant upward trend in recent years. This positive shift could be attributed to strengthened tax collection efforts to curb evasion and improve compliance. Furthermore, substantial changes to income tax brackets, rates, or deductions through policy reforms likely contribute to this growth.

Table: Tax Buoyancy

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Total Government Revenue		0.57	1.27	0.61	0.05	1.72	0.59	1.78
Import Duty		0.40	1.53	-0.92	1.77	0.71	0.81	0.72
Excise Duty		0.13	1.72	0.06	1.80	1.29	0.40	0.74
Value Added Tax		0.51	1.73	-0.82	1.18	2.13	0.42	1.46
Income Tax		0.24	0.76	0.35	-0.30	2.05	0.60	1.24

Source: Authors own calculations

8.3. Equity Analysis: Income Tax Example

Individuals with identical income and assets should pay the same taxes based on horizontal equity (Elkins, 2006). Analysing Kenya's income tax bands through this lens necessitates assessing whether the tax rates distribute the tax burden equitably among those with similar earnings.

Horizontal equity is widely regarded as a fair tax principle because it embodies the fundamental concept of treating equals equally. This principle resonates deeply with people's sense of justice as it ensures individuals with the same economic capacity, meaning similar income, assets, and overall financial standing, contribute proportionally to funding public goods and services (Elkins, 2006). By preventing situations where individuals with equal means bear disproportionate tax burdens, horizontal equity safeguards against one person unfairly shouldering a heavier load than another. Horizontal equity safeguards against arbitrary discrimination within the tax system (Musgrave, 1990).[21] Mandating that individuals in comparable situations are taxed similarly helps prevent the implementation of tax policies that unfairly favour specific groups or individuals without justifiable cause. This commitment to impartiality fosters trust in the government and strengthens social cohesion, as citizens are more likely to perceive the system as just and equitable. Conversely, when a tax system is perceived as unfair, it can breed resentment, encourage tax avoidance, and erode public trust.

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[21]Musgrave, A., Richard. "Horizontal Equity, Once More." University of Chicago Press, vol. 43, no. 2, 1 Jun. 1990, p. 113-122. https://doi.org/10.1086/ntj41788830.

To deduce if the tax band is equitable horizontally, we examine the tax bands as outlined in the Income Tax Act below,

Table: Tax Bands

Monthly Pay Bands (Ksh.)	Annual Pay Bands (Ksh.)	Rate of Tax (%)
On the first Shs. 24,000	On the first Shs. 288,000	10
On the next Shs. 8,333	On the next Shs.100,000	25
On the next Shs. 467,667	On the next Shs. 5,612,000	30
On the next Shs.300,000	On the next Shs. 3,600,000	32.5
On all income above Shs. 800,0000	On all income above Shs. 9,600,000	35
Personal Tax Relief		
2,400	28,800	

Source: Kenya Revenue Authority[22]

Large discrepancies within each tax band can potentially lead to horizontal inequity. This means individuals with different income levels within the same band will pay the same tax rate on a larger portion of their income, potentially leading to horizontal inequity.

Imagine person A earning Ksh. Four hundred thousand annually, and Person B earns a significantly higher Ksh. 9,000,000 annually. Despite their vastly different incomes, both fall within the same tax bracket and face the same 30% tax rate. This means that while Person B earns significantly more and likely enjoys a higher standard of living, they contribute the same proportion of their income in taxes. This creates an uneven playing field. Person A, with a much lower income, will feel a much greater pinch from that 30% tax rate than Person B. This scenario highlights how wide income ranges lead to an unfair distribution of the tax burden, where those with lower incomes within a bracket potentially bear a disproportionately heavier burden.

These wide brackets can stifle ambition. Suppose a significant chunk of any additional income earned within a bracket is taxed away without changing a person's tax burden relative to others in the same bracket. In that case, the financial incentive to strive for higher income diminishes. In essence, while aiming for progressivity, the wide income ranges within Kenya's tax brackets inadvertently create a system where individuals with vastly different incomes are treated the same, undermining the fairness and efficiency of the tax system.

The significant jumps in tax rates between certain brackets (e.g., 10% to 25%) might incentivise individuals to seek tax avoidance strategies to keep their income below certain thresholds. This can lead to distortions in economic activity and reduce the overall efficiency of the tax system.

8.4. Tax Elasticity: Example of Fuel Taxes

Between June and July 2023, Kenya experienced a noticeable shift in fuel prices, leading to varying degrees of demand fluctuation across different fuel types, with data as shown in Annex 2. The price of petrol increased, rising from Ksh 182.63 to Ksh 195.32 per litre. This price hike decreased demand, with the quantity demanded falling from 121,340 to 112,640 metric tonnes. Like petrol, AGO Diesel prices also climbed, moving from Ksh 167.98 to Ksh 180.42 per litre. This price increase resulted in a decline in demand, with the quantity demanded dropping from 187,860 to 170,770 metric tonnes. Kerosene prices followed the upward trend, increasing from Ksh 162.19 to Ksh 170.25 per litre. This price change led to the most significant demand reduction among the three fuels, with the quantity demanded plummeting from 5,370 to 4,270 metric tonnes.

To calculate the Price Elasticity of Demand, I use the midpoint method to calculate the stand out as a more robust and reliable approach, especially when dealing with significant price fluctuations. The midpoint method utilises the following formula: PED = [(Q2 - Q1) / ((Q1 + Q2) / 2)] / [(P2 - P1) / ((P1 + P2) / 2)], where Q1 and Q2 represent the initial and new quantities demanded, respectively, and P1 and P2 represent the initial and new prices. [23]

Analysing the fuel price shocks in Kenya during June and July 2023 reveals some intriguing characteristics. Let's look at the price elasticity of demand for each fuel type, as illustrated below.

i. **Motor Spirit:** With a PED of approximately -1.03, petrol demand shows a slightly elastic response to the price increase. This suggests that while consumers are sensitive to price changes, the demand for petrol is not drastically affected by a moderate price hike. Factors like limited substitutes and the essential nature of petrol for many commuters likely contribute to this relative inelasticity.

ii. **AGO:** AGO (Light Diesel Oil) exhibits a PED of roughly -1.23, indicating a slightly more elastic demand than petrol. This implies that consumers are marginally more responsive to price changes for diesel. The availability of alternative fuel options for specific industries and the potential for fuel efficiency measures might explain this slightly higher elasticity.

iii. **Illuminating Kerosene:** Kerosene displays the most elastic demand among the three fuels, with a PED of approximately -4.13. This shows that consumers are susceptible to price changes for kerosene. This heightened elasticity could be attributed to the availability of substitutes like electricity and other energy sources for lighting and cooking, particularly in urban areas.

These PED calculations provide valuable insights into consumer behaviour in response to fuel price fluctuations. While all three fuels demonstrate some price sensitivity, kerosene is the most elastic, followed by AGO (Light Diesel Oil) and petrol. Understanding these demand dynamics is crucial for policymakers in assessing the potential impact of fuel taxes and subsidies on consumer welfare and government revenue.

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[23] Lynham, John. " Price Elasticity of Demand and Price Elasticity of Supply." Pressbooks.oer.hawaii.edu, 2018

8.5. Deadweight Loss

To illustrate deadweight loss, I use the data in Annex 3 to calculate and illustrate deadweight loss incurred when VAT tax changed from 8% to 16% between June and July 2023.

Deadweight loss is like a leak in the economy. It represents the lost potential benefits when the market, influenced by factors like taxes, fails to operate at its most efficient point. Imagine a balanced scale where supply and demand naturally set a price and quantity that maximises everyone's gains. Taxes, acting as a weight on this scale, disrupt this balance. This leads to fewer goods being traded, as if some vanish. This "vanishing" is the deadweight loss – potential transactions and benefits that disappear. This matters because society isn't getting the most out of its resources. Consumers might face higher prices or limited choices while producers grapple with reduced sales. By understanding this loss, policymakers can better evaluate the cost of interventions like taxes, aiming to minimise the leak and keep the economy running smoothly.

8.5.1. Motor Spirit (petrol)

In June 2023, Kenya's Motor Spirit (petrol) market recorded a consumption of 121,340,000 litres at Ksh 182.63 per litre, resulting in a market size of Ksh 22.16 billion. However, the market dynamics shifted by July 2023, likely influenced by a price increase. The price of MotorSpirit rose to Ksh 195.32 per litre, a Ksh 12.69 increase. This price hike led to a contraction in demand. Consumption in July decreased to 112,640,000 litres, reflecting a reduction of 8,700,000 litres. Despite the drop in consumption, the market size remained relatively stable at Ksh 22.00 billion, experiencing a marginal shrinkage of Ksh 0.16 billion. The calculated deadweight loss for this period is substantial, estimated at Ksh 55,201,500.

Chart: Deadweight Loss on Motor Spirit (Petrol)
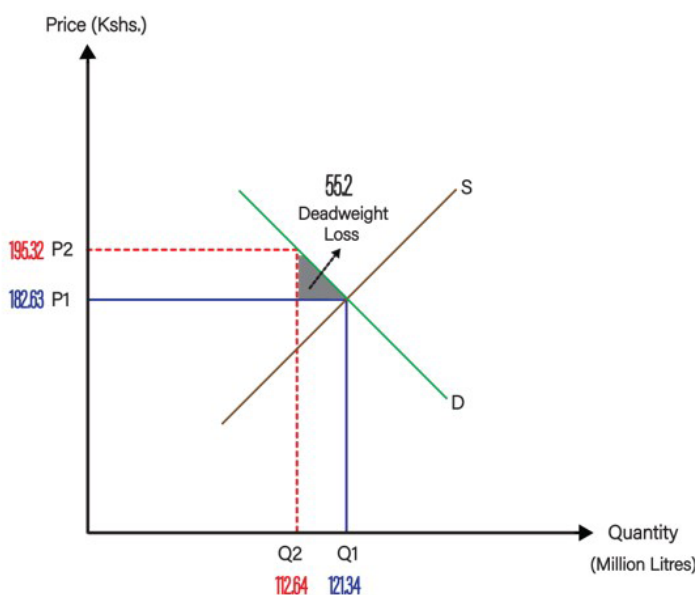
This significant loss in economic efficiency suggests that the price increase, while potentially influenced by factors like tax adjustments or supply chain disruptions, led to a notable decrease in consumer welfare without a corresponding gain in government revenue or producer surplus.
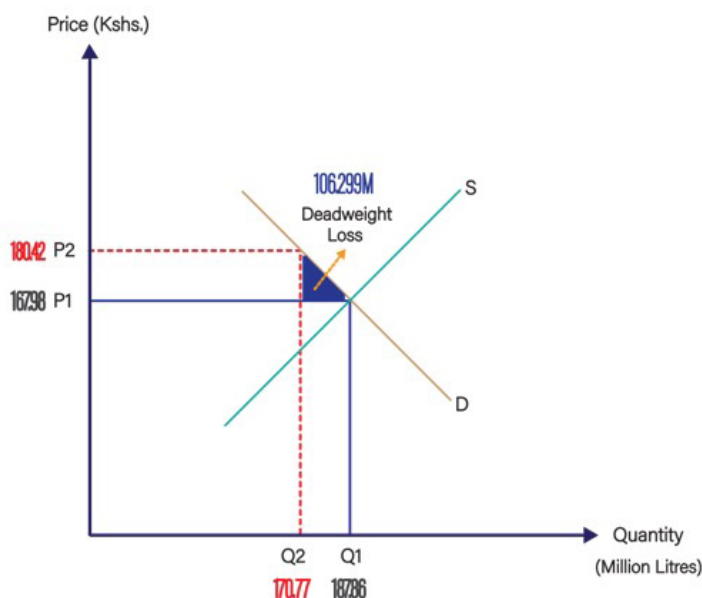
Table: Tax Buoyancy

	MotorSpirit Litres)	Motor Spirit (Price,Ksh)	Size of the Market (Ksh Billion)	Size of Market that shrunk (Ksh Billion)	Change in MotorSpirit (Litres, Million) Quantity Demanded	Change in Price	Deadweight loss
Jun-23	121340000	182.63	22.16				
Jul-23	112640000	195.32	22.00	-0.16	-8.7	12.69	(55,201,500)

Source: KNBS Leading Indicators

8.5.2. AGO (Light Diesel Oil)

In June 2023, Kenya's light diesel oil market saw robust activity, with 187,860,000 litres consumed at Ksh 167.98 per litre, generating a market size of Ksh 31.56 billion. However, the landscape changed significantly by July 2023, following a VAT increase on fuel from 8% to 16%. This tax change contributed to a price hike, pushing the AGO price to Ksh 180.42 per litre – a Ksh 12.44 increase, which brought a deadweight loss in the market of Ksh 106.299 million.

This price surge had a direct impact on demand. Consumption contracted to 170,770,000 litres in July, a decrease of 17,090,000 litres. Consequently, the overall market size shrank by Ksh 0.746 billion, settling at Ksh 30.81 billion, as shown in the table below.

Table: AGO Light Diesel Oil

	AGO (Light Diesel Oil) Litres	AGO (Light Diesel Oil) Price Ksh)	Size of the Market (Ksh Billion)	Size of Market that shrunk (Ksh Billion)	Change in AGO (Light Diesel Oil) Quantity Demanded (Litres, Million)	Change in price Before and After VAT Tax Changing from 8% to 16%	Deadweight loss
Jun-23	187860000	167.98	31.56				
Jul-23	170770000	180.42	30.81	-0.746	-17.09	12.44	(106,299,800)

Source: KNBS Leading Indicators

8.5.3. Illuminating Kerosene

In June 2023, the Kenyan market for Illuminating Kerosene saw consumption of 5,370,000 litres at Ksh 162.19 per litre, leading to a market size of Ksh 0.871 billion. Come July 2023, the price of Illuminating Kerosene experienced an upward shift, reaching Ksh 170.25 per litre, marking an increase of Ksh 8.06. This price increase resulted in a demand contraction. Consumption in July declined to 4,270,000 litres, representing a reduction of 1,100,000 litres and a deadweight loss of 4.4 million.
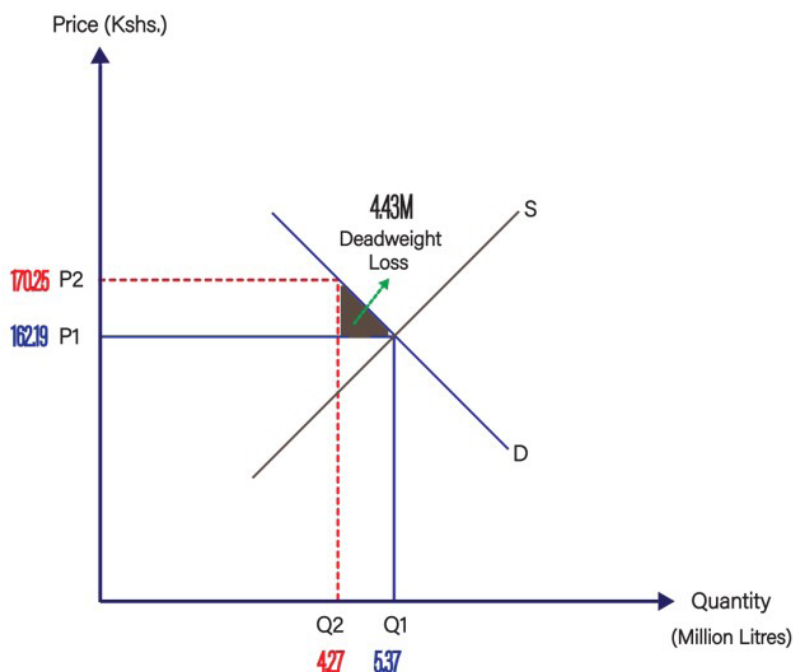
Consequently, the market size for Illuminating Kerosene shrank to Ksh 0.727 billion, reflecting a decrease of Ksh 0.144 billion, as shown in the table below.

Table: Kerosene

	Illuminating Kerosene (Litres, Million)	Illuminating Kerosene (Price, Ksh)	Size of the Market (Ksh Billion)	Size of Market that shrunk (Ksh Billion)	Change in MotorSpirit (Litres, Million) Quantity Demanded	Change in Price	Deadweight loss
Jun-23	5.37	162.19	0.871				
Jul-23	4.27	170.25	0.727	-0.144	-1.1	8.06	(4,433,000)

Source: KNBS Leading Indicators

The calculated deadweight loss for this period is approximately Ksh 4,433,000. This figure highlights the economic inefficiency caused by the price increase. While factors like changes in taxation or supply chain costs might have contributed to the price rise, the deadweight loss suggests a net negative impact on society, with consumers bearing the brunt of reduced consumption and lost welfare.

8.6. Importance of Deadweight Loss to Policymakers

Policymakers can use the concept of deadweight loss as a crucial lens to examine the effectiveness of government interventions, especially when it comes to taxes, as shown below;

i. **Cost-Benefit Analysis:** Taxes often generate revenue for essential public services. However, they also distort market prices, leading to deadweight loss. By estimating the deadweight loss associated with a particular tax, policymakers can weigh it against the potential benefits of the revenue generated. This analysis helps determine if a tax, even well-intentioned, might be doing more harm than good to the overall economy.

ii. **Tax Design and Optimisation:** Not all taxes are created equal. Some taxes lead to more significant deadweight losses than others. For instance, taxes on goods with elastic demand (meaning people are susceptible to price changes) tend to create enormous deadweight losses. Policymakers can use this understanding to design tax systems that minimise distortions and economic inefficiency. They might, for example, opt for taxes on goods with inelastic demand or explore alternative tax bases.

iii. **Evaluating Tax Reform:** When considering tax reforms, policymakers can use deadweight loss to compare the efficiency of different tax structures. By modelling the potential deadweight loss under various reform scenarios, they can identify options that achieve desired revenue goals while minimising negative impacts on market efficiency and economic growth.

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8.7. How can the approach to Trade-offs of Efficiency and Equity in Kenya's Taxation System be done?

1. **Clearly Defining Objectives**

Policymakers must first establish clear objectives for the tax system. Is the main purpose to increase revenue, encourage economic growth, minimise income inequality, or ensure fairness? The relative relevance of each purpose will impact how much horizontal equity they are willing to accept.

2. **Identifying and Quantifying Trade-offs**

Policymakers need to analyse the potential trade-offs between horizontal equity and other goals. For example, in terms of economic efficiency, taxing certain types of income (like capital gains) less might stimulate investment and economic growth, even if it leads to some degree of horizontal inequity compared to taxing all income equally.

3. **Considering Public Perception and Social Cohesion**

Policymakers need to consider how the public will perceive different tax policies. A tax system seen as fundamentally unfair, even if economically efficient, can erode trust in the government and discourage compliance.

4. **Using a Mix of Policy Tools**

Policymakers often use a combination of tools to balance competing objectives; for example,

   i. **Tax Credits and Deductions:** These can target specific groups or activities without significantly compromising horizontal equity. For example, deductions for childcare expenses can help families with children without disproportionately benefiting others in the same income bracket.

   ii. **Phased Implementation:** Gradual implementation of tax changes can give individuals and businesses time to adjust, potentially mitigating negative economic impacts.

5. **Regular Review and Adjustment**

Tax policies should be regularly reviewed and adjusted to align with current economic conditions.

9 Key Messages

- Kenya's tax system must evolve to become more efficient and equitable. This requires tackling inefficiencies like a narrow tax base and difficulties in taxing the informal sector while ensuring the tax burden is distributed fairly across all income levels.
- Policymakers face the constant challenge of balancing efficiency (maximising revenue with minimal economic distortion) and equity (distributing the tax burden fairly). Finding this balance is crucial for sustainable economic growth and social justice.
- Simplifying Tax Administration, which implies streamlined regulations and efficient collection processes, will improve compliance and reduce costs.
- Policymakers need to clearly define the primary objectives of the tax system, whether they are focused on maximising revenue, stimulating economic growth, reducing inequality, or ensuring fairness.
- Policymakers must analyse and transparently communicate the potential trade-offs associated with different policy choices. For example, will a tax break for businesses to boost investment disproportionately benefit certain groups?
- The National Treasury could use a mix of policy tools to help achieve multiple objectives simultaneously to achieve horizontal equity, in which targeted tax credits and deductions can support specific groups or activities without undermining overall fairness, and phased implementation of reforms can mitigate negative economic impacts and allow for adjustments.
- Tax policies should be regularly reviewed based on evidence and adjusted to reflect changing economic realities and societal priorities. The National Tax Policy and the Public Finance Management Act should require that any tax law changes only be done after careful empirical and qualitative analysis of taxation and tax structure.

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Annexes

Annexe 1: Composition of Ordinary Revenue

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Import Duty	106,875	98,022	108,375	118,280	130,123	142,373
Excise Duty	194,310	195,270	216,375	252,094	264,509	290,083
Value Added Tax	414,143	383,713	410,758	523,098	550,440	654,788
Income Tax	685,330	706,936	694,053	876,707	941,576	1,093,645
Other Taxes	99,099	189,477	132,504	147,731	154,472	280,131
Total Ordinary Revenue	1,499,757	1,573,418	1,562,065	1,917,910	2,041,120	2,461,020

Source: Statistical Annex to The Budget Statement for The Fiscal Year 2024/2025

Annexe 2: Government Revenue by Tax Type

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Total Government Revenue	1440389	1525556	1704363	1797666	1803536	2199808	2360510	2907515
Import Duty	89943	93685	106875	98022	108375	118280	130123	142373
Excise Duty	165474	167753	194310	195270	216325	252094	264509	290083
Value Added Tax	339034	357129	414143	383713	410758	523098	550440	654788
Income Tax	625050	640546	685330	706936	694053	876707	941576	1093645
GDP at Market Price	8081061	8922320	9745599	10620841	11256082	12698001	14274419	16131502

Source: Statistical Annex to The Budget Statement for The Fiscal Year 2024/2025

Annexe 3: Fuel Demand and Types of Fuel

	AGO (Light Diesel Oil) Metric Tonnes Demanded	Motor Spirit Metric Tonnes Demanded	Illuminating Kerosene Metric Tonnes Demanded	Motor Spirit (Price, Ksh)	AGO (Light Diesel Oil) Price Ksh	Illuminating Kerosene (Price, Ksh)
Jan-23	178960	126650	6550	178.05	162.91	146.86
Feb-23	173690	118780	6130	178.05	162.91	146.86
Mar-23	195670	131400	6060	180.05	162.91	146.86
Apr-23	170150	115880	4870	180.05	162.91	146.86
May-23	188220	127950	5230	183.29	169.1	161.83
Jun-23	187860	121340	5370	182.63	167.98	162.19
Jul-23	170770	112640	4270	195.32	180.42	170.25
Aug-23	200670	129690	4120	195.32	180.42	170.25
Sep-23	186180	117400	3650	212.25	201.73	203.34
Oct-23	180670	113990	3270	217.97	206.21	205.79
Nov-23	164250	114590	2580	217.97	204.21	203.79
Dec-23	166460	127570	2520	212.97	202.21	199.78

Source: KNBS Leading Indicators[24]

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[24]KNBS. Leading Economic Indicators (March Issue). 2024.

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