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Master's Dissertation

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Topic

Examining the effectiveness of sin taxes on unwanted social behaviours

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Abstract

Sin taxes have long been used as a policy tool to influence social behaviour by discouraging the consumption of products associated with negative externalities, such as tobacco, alcohol and sugar-sweetened beverages (SSBs). These taxes aim to reduce consumption, improve public health outcomes and generate government revenue. However, debates persist regarding their effectiveness, economic fairness and unintended consequences, particularly in relation to low-income populations and illicit trade markets. This study reviews the effectiveness of sin taxes in modifying social behaviour, with a particular focus on their impact on consumption patterns, health outcomes and behavioural adaptations.

Utilising a systematic literature review approach, this study synthesises findings from peer-reviewed journal articles, policy reports and empirical studies to evaluate whether sin taxes successfully achieve their intended objectives. A thematic analysis was conducted to categorize findings into key themes, including the impact of sin taxes on consumption, behavioural responses, unintended consequences and overall policy effectiveness. The literature review reveals that sin taxes generally lead to consumption reductions, with studies reporting a 3-8% decline in smoking rates, a 4-6% drop in alcohol consumption and up to a 50% reduction in SSB purchases in some jurisdictions. However, the extent of their effectiveness varies based on price elasticity, enforcement mechanisms and complementary health policies.

The study also highlights several unintended consequences such as the expansion of black markets, cross-border shopping and economic strain on low-income consumers. In some cases, consumers shift to cheaper or untaxed alternatives, reducing the intended health benefits of taxation. Moreover, industry resistance through lobbying, price manipulation and legal challenges often undermines the implementation of sin tax policies. Despite these challenges, the findings suggest that sin taxes can be most effective when integrated into a broader public health strategy, incorporating public education campaigns, regulatory enforcement and reinvestment of tax revenue into health programmes.

This study concludes that while sin taxes play a significant role in shaping social behaviour and promoting better health outcomes, their effectiveness is maximized when complemented with strong regulatory frameworks and alternative policy measures. Future research should explore long-term behavioural effects, taxation in low-income countries and the intersection between consumer psychology and tax compliance to further refine sin tax policies for sustainable public health benefits.

Keywords: Sin Taxes, Social Behaviour, Health, Health Promotion Levy, Pigouvian, Illicit Trade, Price Elasticity, Fiscal Policy

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List of Abbreviations and Acronyms

CASP	Critical Appraisal Skills Programme
HIC	High Income Countries
HPL	Health Promotion Levy
LMIC	Low- and Medium-Income Countries
OECD	Organisation for Economic Co-operation and Development
SARS	South African Revenue Services
SLR	Systematic Literature Review
SSB / SSBs	Sugar Sweetened Beverages
WHO	World Health Organisation

Chapter 1: Introduction

1.1 Introduction

For many years, countries all over the world have been applying taxes that are intended to discourage certain social behaviours through a change in consumption. These taxes, known as excise duties or, more popularly, 'sin taxes', are taxes on products that are considered harmful or sinful and those that play a crucial role in shaping societal health and well-being. They are a tool to reduce the consumption of harmful products and services by making them less affordable. This study aims to review the profound effect of these taxes on the social behaviours they are intended to discourage, a topic of significant importance in the field of taxation and public health.

1.2 Background to the Study

For ages, taxes have been levied to discourage undesirable, costly social consumption, particularly of tobacco and alcohol products. However, in recent times, these taxes have increasingly been used to address the adverse health effects associated with unhealthy food and beverage consumption, including carbon emissions. The historical evolution of sin taxes provides a fascinating context for this study as comprehensively discussed by O'Connell et.al (2021). A key paradox lies in the fact that revenue is generated from the very items that the taxes aim to discourage. According to Pidduck and Swanepoel (2021), it is often argued that the lofty goal of discouraging or reducing the behaviour in question is occasionally proffered as a sometimes somewhat ambitious justification for sin taxes. Such taxes are classified as 'Pigouvian taxes', meaning they are levied on individuals and companies for engaging in activities that impose adverse side effects on society, such as straining public healthcare systems and contributing to environmental pollution.

Sin-taxes on unhealthy products such as alcohol, tobacco and sugar-sweetened beverages (SSBs) have been shown to effectively reduce consumption and related harms when implemented at rates that increase prices by 20% or more (Wright et al., 2017). These taxes can generate substantial revenue for the state's public health programmes, with estimates ranging from \$25 billion per year for alcohol taxes to \$15-

20 billion annually for sugary beverage taxes (Joyner & Warner, 2013). Although there are concerns about the potential negative effects on low-income households, particularly when an addicted household head reallocates funds or opts for lower-quality alternatives, which may adversely affect family members, the broader benefits of sin taxes in enhancing public health remain significant. Policymakers ought to carefully consider the primary goals, framing and potential unintended consequences of such taxes to ensure their effectiveness and political sustainability (Wright, et al., 2017; Badenes-Pla & Jones, 2003).

Sin taxes are economic tools aimed at reducing the consumption of potentially harmful goods such as tobacco, alcohol and sugar-sweetened beverages (Partyka et al., 2019; Miracolo et al., 2021). These taxes can effectively decrease consumption, generate revenue and improve the population's health. Studies have shown that sin taxes can reduce the prevalence of diseases such as diabetes and heart attacks (Miracolo et al., 2021). However, their regressive nature and potential negative social perception are notable drawbacks (Partyka et al., 2019). Economists have developed various approaches to studying addiction and its policy implications (Badenes-Plá & Jones, 2003). The implementation of sin taxes has been widespread, with 35 countries introducing additional taxes on tobacco products and nine countries targeting specific unhealthy components such as sugar, salt and fats (Partyka et al., 2019). Sin taxes on alcohol, sugary beverages and fatty foods have the potential to generate significant revenue, ranging from billions to hundreds of millions of dollars annually (Joyner & Warner, 2013).

Notwithstanding sin taxes, all governments need to generate revenue using other forms of tax. Still, the challenge is for them to carefully think of the appropriate level of tax rates and the suitable tax base. As such, governments need to design a properly functioning and transparent tax compliance system that will encourage taxpayers to participate. Establishing the correct tax rates ought to be calculated in a manner that does not deter formal businesses that contribute significantly to the coffers of the State. A study by Djankov et. al. (2010) reveals that a 10-percentage point increase in the effective corporate income tax rate is associated with a reduction in the ratio of investment to GDP of up to two percentage points and a decrease in the business entry rate of about one percentage point". It, therefore, becomes a tight balancing act for any government to meticulously and carefully balance between its need to generate revenue and retain

its tax base.

The South African Revenue Services (SARS) states that “excise duties and levies are imposed mostly on high-volume daily consumable products such as petroleum and alcohol and tobacco products, as well as certain non-essential or luxury items such as electronic equipment and cosmetics. The primary function of these duties and levies is to ensure a constant stream of revenue for the state, with a secondary function of discouraging consumption of certain harmful products. These are products that are harmful to human health or the environment. The revenue generated by these duties and levies amount to approximately ten per cent of the total revenue received by SARS.” (South African Revenue Services). Of all these products, taxes levied on alcohol products, tobacco products and SSBs are referred to as sin taxes.

Those who advocate for sin taxes do so by pointing to several policy goals, which include improving public health services through revenues collected and using these taxes to fund social programmes directed against the conditions that the taxes are fundamentally raised against (Chaloupka et al., 2019). While this may be considered helpful, as the levels of consumption and abuse of these products are high and lead to detrimental health effects, the flip side is whether these taxes do indeed lead to a change in social behaviour.

Du Preez (2015) mentions that the fundamental principle of changing unwanted social behaviour is essential and should not be taken for granted, as those who do the right thing also need to be incentivised. This is imperative to consider in the design of tax systems to discriminate between activities conducted by taxpayers as Mirrlees et al. (2011) state that “people left to their own devices can behave in a harmful manner to themselves and others”. Furthermore, Mirrlees et al. (2011), in supporting the increased taxation on harmful products, emphasise that this is an efficient way to discourage those activities.

The success of changing social behaviours through taxation may not be effective, as people resort to the black market, where they can pay lower prices to obtain these expensive products. It is not easy to establish a clear correlation between the taxes collected and the issues they are intended to address, as these taxes are not ring-fenced or directly traced to the intended services and programmes.

The advent of COVID-19 in 2020 proved a great injustice to the collection of sin taxes and the discouragement of these unwanted behaviours (Pidduck & Swanepoel, 2021). The government of South Africa imposed a ban on the sale of tobacco products and alcoholic products. Contrary to the government's expectation, which was that citizens would not indulge in these products due to market closure; this gave rise to a surge in the black market for these products, with limited control of what happens in these communities and users of the products (van Walbeek et al., 2022).

1.3 Problem Statement

The social behaviours that sin taxes aim to influence by taxing them can only be successful if consumers respond by consuming less of the products that are being taxed. However, equally significant is the state's dependence on these taxes, given that they typically contribute around ten per cent to government revenues (SARS, 2023). This is despite the government's assertion that the primary aim is not to generate extra tax income but rather to modify undesirable social behaviour (National Treasury, 2022). An additional consideration is whether taxation is indeed the correct means to implement the change in these unwanted social behaviours.

The primary focus of this research is to systematically review and synthesise existing studies that examine the effectiveness of sin taxes in reducing undesirable social behaviours. Specifically, the study examines how sin taxes impact consumer behaviour by analysing the results of previous studies that focused on this, the potential for unintended outcomes and the overall efficacy of policies in accomplishing their objectives. By aggregating and evaluating prior research, this study endeavours to provide a clearer understanding of whether sin taxes are an effective public policy tool or if their role needs to be reconsidered within a broader framework of behavioural and economic interventions. Given the complex and sometimes conflicting findings across jurisdictions, there is a need for a structured synthesis of existing literature to understand whether and how sin taxes meet their intended social, health and fiscal objectives.

1.4 Objectives of the Study

This study seeks to achieve the following objectives through a systematic literature review methodology. Rather than generating primary data, the research synthesises insights from peer-reviewed academic literature and relevant policy documents to evaluate the effectiveness and implications of sin taxes.

1. To determine, from existing research, the impact of sin taxes on the consumption of tobacco, alcohol and sugar-sweetened beverages.
2. To explore how sin taxes are shown in the literature to influence unwanted social behaviours.
3. To review published findings on the health implications associated with the consumption of sin-taxed products.
4. To examine the reported unintended consequences of sin tax policies as documented in the literature.

1.5 Research Questions

These questions are answered by thematically analysing findings reported in the selected literature, allowing for a synthesised view of outcomes across different contexts.

1. What does the literature reveal about the impact of sin taxes on the consumption of tobacco, alcohol and sugar-sweetened beverages?
2. How do studies describe the relationship between sin taxes and changes in unwanted social behaviours?
3. Based on reviewed studies, how effective are sin taxes as a public policy tool for behaviour modification and public health improvement?
4. What unintended consequences of sin taxes are reported in existing research, including black market activity and substitution effects?

1.6 Significance of the Study

This study is critical because it sheds light on how sin taxes influence people's choices and behaviours when it comes to consuming tobacco, alcohol and SSBs. By reviewing existing research, it provides a clearer picture of whether these taxes actually reduce consumption, improve public health and generate much-needed revenue for government services. Policymakers and public health officials can use these insights to refine their taxation strategies, ensuring that they are not only effective in curbing harmful behaviours but are also fair and sustainable. At the same time, the study acknowledges the challenges that come with sin taxes, such as illicit trade and tax avoidance, which can weaken their impact if not properly managed. Ultimately, this research helps bridge the gap between economic policy and public health, offering practical guidance on how governments can use taxation to shape behaviour while balancing social and financial priorities.

By consolidating insights across a range of international and South African studies, this research contributes to a more coherent understanding of the behavioural, fiscal and regulatory dimensions of sin taxes. It offers policymakers a context-sensitive synthesis of what works, under what conditions and what challenges remain. The study also fills a gap in African scholarship where localised reviews of sin tax outcomes remain scarce.

1.7 Delimitations (Scope) of the Study

This study is limited to a desk-based review of published academic and policy literature. It does not include stakeholder interviews or fieldwork and is constrained by the availability and methodological quality of included studies. For this study, excise duties on alcoholic beverages, tobacco products and sugary beverages are considered in the data analysis. Carbon taxes and gambling are not included. In addition, the study was not confined to any geographical area but excluded nations where there is weak tax enforcement. Only peer-reviewed articles from journals and official reports are considered. Finally, the review considers observational studies, cross-sectional studies, meta-analyses and systematic reviews, all of which are existing literature that were synthesised. Random control trials were not considered owing to their impracticality in conducting economic and public policy research.

1.8 Assumptions of the Study

The study supposes that sin taxes serve as a deterrent to the consumption of specific products by increasing their cost, thereby discouraging undesirable social behaviours. It is presumed that as taxes on alcohol products, tobacco products and sugar-sweetened beverages increase, consumer demand for these products should decline, aligning with the principles of price elasticity of demand and behavioural economics. Additionally, it is assumed that the existing body of research comprising empirical studies, policy evaluations and economic analyses, provides evidence supporting this relationship. By synthesising findings from diverse sources, including peer-reviewed articles, official reports and meta-analyses, the study anticipates that consistent trends will emerge, thus demonstrating a reduction in consumption following the implementation of sin taxes.

1.9 Limitations of the Study

The study focuses only on tobacco, alcohol and sugar-sweetened beverages. Given that this is a systematic literature review, it may be subject to publication bias in the existing literature, meaning that studies with strong effects may be overrepresented. Much of the available research focuses on short-term consumption behavioural changes and not long-term adaptation, making it uncertain about the effectiveness and sustainability of deterring the use of these products.

1.10 Summary/Organisation of the Study

The following is a description of the structure of this dissertation:

Chapter 1: Introduction

This chapter provides an overview of the study, including its background, problem statement, research objectives, hypotheses and significance. It also outlines the study's delimitations, assumptions and limitations, along with a summary of the dissertation structure and a brief overview of the chapter.

Chapter 2: Literature Review

This chapter reviews existing literature on sin taxes, with a particular focus on their application to alcoholic beverages, tobacco and sugar-sweetened beverages. It further examines empirical studies that explore how these taxes impact consumption patterns, influence behavioural change and produce both intended and unintended consequences. By analysing these aspects, the chapter establishes a theoretical foundation for the research, providing context for assessing the overall effectiveness of sin taxes.

Chapter 3: Research Methodology

This chapter details the research methodology employed in the study, including data collection methods, analytical models, ethical considerations and measures to ensure data validity and reliability.

Chapter 4: Presentation and Analysis

This chapter presents and interprets the data collected during the study. The analysis discusses the findings in relation to the research hypotheses and provides insights into the outcomes.

Chapter 5: Summary, Conclusion and Recommendations

The final chapter summarises the study's findings, draws conclusions based on the data and provides recommendations informed by the gaps identified during the research. It also acknowledges the study's limitations and suggests directions for future research.

1.11 Summary

This chapter laid the groundwork for the study by introducing its background, problem statement, objectives and significance. It clearly outlined the research objectives and questions, providing a structured framework for the investigation. Additionally, the chapter detailed the delimitations, assumptions and limitations, ensuring transparency

in the scope and methodology of the study. Finally, it provided an overview of the chapter structure, outlining how the research is organized to systematically address the research questions and achieve the study's objectives.

Chapter 2: Literature Review

2.1 Introduction

This chapter critically reviews existing literature on the effectiveness of sin taxes in addressing unwanted social behaviours, particularly those associated with the consumption of alcohol, tobacco and SSBs. The literature is examined through both theoretical and empirical lenses, drawing from economics, behavioural science and public health disciplines. As this study adopts a systematic literature review methodology, the chapter is structured to reflect the analytical framework used to identify, evaluate and synthesise relevant studies.

The objective of this review is not to generate new primary data but to systematically assess and integrate existing knowledge to determine how sin taxes function in various contexts. This includes evaluating their impact on consumption behaviour, public health outcomes and unintended consequences such as illicit trade or regressive economic effects. Furthermore, the review identifies conceptual gaps in the literature and highlights inconsistencies in global policy implementation and outcomes.

The chapter is organised into three main sections. The first outlines the theoretical frameworks that underpin the use of sin taxes, focusing on negative externalities and behavioural economic models. The second details the systematic review methodology applied to identify and select relevant studies. The third section synthesises empirical findings across different product categories and jurisdictions, drawing thematic insights and assessing the degree to which the evidence supports the behavioural and fiscal intentions of sin tax policies.

2.2 Theoretical Literature Review

The theoretical foundation of sin taxes lies primarily in economic and behavioural frameworks that seek to explain and justify the imposition of taxes on goods associated with negative externalities. These are goods whose consumption imposes social costs beyond the individual consumer, including increased public healthcare expenditure, lost productivity and broader societal harm. Sin taxes, therefore, function as corrective

instruments that aim to internalise these externalities, ensuring that market prices more accurately reflect the true cost of consumption.

The classical economic rationale for sin taxes can be traced to Pigou (1920), who proposed the imposition of taxes on activities that generate negative externalities as a means to correct market inefficiencies. According to this framework, consumers often do not consider the full social costs of their actions, particularly when the harm caused is borne by society at large, such as in cases of smoking-related illnesses or alcohol-induced accidents. By levying a tax equivalent to the external cost, Pigouvian taxation aims to reduce consumption to a socially optimal level. The World Health Organisation (2019) echoes this perspective, emphasising that taxation on harmful goods such as alcohol and tobacco not only raises public revenue but also contributes to significant health benefits by discouraging excessive use.

However, the limitations of the Pigouvian model become apparent in real-world contexts, where consumer behaviour does not always align with rational utility-maximisation assumptions. This has led to increasing reliance on insights from behavioural economics, which provide a more nuanced understanding of how individuals make consumption choices. Behavioural economics posits that individuals are subject to cognitive biases such as present bias, where immediate gratification outweighs long-term well-being and loss aversion, where the perceived cost of giving up a habitual product like cigarettes or sugary drinks is disproportionately high (Thaler & Sunstein, 2008).

By accounting for these psychological tendencies, sin taxes can be seen as “nudges” that influence consumer decision-making in favour of healthier outcomes (Thaler & Sunstein, 2008). For instance, by increasing the cost of harmful products, consumers may be deterred not only due to financial reasons but also due to the salience of price signals that draw attention to the health implications of their choices. This complements the traditional economic argument by framing sin taxes as tools that assist individuals in overcoming internal biases and making better long-term decisions (Chaloupka et al., 2019).

Public health models further contribute to the theoretical grounding of sin taxes by framing them as interventions that safeguard population health and reduce disease

burden. According to the World Health Organization (2017), fiscal policies such as excise taxes on harmful products are among the most cost-effective strategies for preventing non-communicable diseases (NCDs). These policies are particularly effective when combined with other interventions such as health education, advertising restrictions and product labelling.

Nevertheless, critics of sin taxes often highlight their regressive nature, arguing that they disproportionately affect low-income households who spend a higher proportion of their income on consumables like alcohol, tobacco and sugary beverages (Allcott et al., 2019). From this perspective, sin taxes may exacerbate social inequality, particularly if the tax burden is not offset by targeted subsidies or investments in public health programmes for vulnerable populations. Cnossen (2022) and Backholer et al. (2017) also underscore the importance of designing tax policies that are equitable and context-sensitive, ensuring that the health benefits of reduced consumption are not undermined by adverse economic impacts on disadvantaged groups.

In sum, the theoretical literature supports the notion that sin taxes can serve both fiscal and behavioural objectives. They operate at the intersection of economic correction and public health promotion, underpinned by theories of externalities, behavioural nudges and social justice. This multi-theoretical perspective positions sin taxes not merely as revenue tools but as policy instruments aimed at achieving societal well-being. As this study will demonstrate through the subsequent empirical review, the effectiveness of these taxes depends heavily on how well theoretical principles are translated into practical policy design and implementation.

2.3 Conducting a Systematic Literature Review

A systematic literature review (SLR) is a methodologically rigorous approach to synthesising existing knowledge by systematically identifying, selecting, appraising and analysing relevant studies related to a defined research question (Tranfield, Denyer & Smart, 2003). This method ensures transparency, replicability and a reduced risk of bias in the inclusion of literature. Given the interdisciplinary nature of sin tax research, spanning economics, behavioural science and public health, an SLR was deemed appropriate for consolidating findings from diverse contexts and methodological

traditions.

The review process adopted in this study followed six key stages, adapted from the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Moher et al., 2009) and tailored to the objectives of this research. The comprehensive stages followed are detailed in Chapter 3.

2.4 Empirical Literature

2.4.1 General Posture on Sin Taxes

Sin taxes, also known as excise taxes on goods that generate negative externalities, have been widely adopted across jurisdictions as instruments to modify consumption behaviour and improve public health. The general posture across the literature reflects a consensus that increasing the price of harmful products, such as tobacco, alcohol and SSBs, can lead to measurable reductions in their consumption (Chaloupka & Warner, 2000; Powell et al., 2013). These taxes serve a dual purpose: they discourage unhealthy behaviour while simultaneously generating revenue for governments, often earmarked for health programmes or social services.

The effectiveness of sin taxes is closely tied to the concept of price elasticity of demand. In general, studies have found that consumers of sin-taxed goods, especially those in low-income groups, are more responsive to price changes (Becker, 1998; Cawley & Ruhm, 2012). This supports the rationale for their use as public policy tools. However, the literature also highlights behavioural variations across demographic groups, including age, income and geographical context. For example, while younger consumers tend to reduce consumption more significantly in response to price increases, older or addicted consumers may display lower price sensitivity (Colchero et al., 2015).

In the South African context, there is limited but growing literature acknowledging taxation as a tool for changing social behaviour. Du Preez (2015) highlights that this behavioural objective ranks lowest among the six principles of taxation in developing countries, compared to its prioritisation in developed nations. Her study found that participants in South Africa and similar jurisdictions rarely cited behavioural change as

a motivation for taxation. This observation suggests that while the policy intent behind sin taxes may be aligned with public health objectives, the underlying tax moral and political economy in low and middle-income countries (LMICs) may not fully embrace their behavioural potential.

Moreover, studies such as Bruwer et al. (2019) bring attention to the unintended economic effects of sin taxes, particularly for small, medium and micro enterprises (SMMEs). These businesses, often located in lower-income communities, report financial strain as a result of consistent tax increases on alcohol and tobacco products. This duality, here taxes can reduce harmful consumption while also undermining the viability of certain businesses, underscores the complex socio-economic trade-offs involved in the implementation of sin taxes.

An important thematic observation across jurisdictions is that public support for sin taxes tends to be stronger when the revenue generated is transparently reinvested in health promotion or disease prevention. The World Health Organization (2017) recommends that sin tax revenues be earmarked for health initiatives, as this enhances the political and social acceptability of such policies.

In summary, the general literature supports the use of sin taxes as an effective behavioural and fiscal intervention. However, the strength of their impact depends on context-specific variables such as enforcement mechanisms, income levels, political will and consumer perception. In South Africa and similar LMICs, the success of sin taxes as a behavioural tool may hinge on addressing structural limitations and reinforcing the link between taxation and social benefit.

2.4.2 Tobacco Taxation

Tobacco taxation is widely regarded as the most empirically substantiated and globally endorsed form of sin tax. It has been implemented extensively in both high-income countries (HICs) and low- and middle-income countries (LMICs) as a core strategy to reduce tobacco consumption and associated public health risks. The World Health Organization (2019) classifies tobacco taxation as a “best buy” intervention, given its cost-effectiveness and its capacity to influence consumption through price-based

deterrence.

Price Elasticity and Consumption Patterns

The economic rationale for tobacco taxation is grounded in the concept of price elasticity of demand. Numerous studies demonstrate that increases in tobacco prices, achieved through excise duties, lead to significant reductions in consumption. According to the World Bank (2017), a 10% increase in cigarette prices typically results in a 4–8% decline in overall tobacco use in HICs and as much as 8–12% in LMICs where consumers are generally more price-sensitive due to lower disposable income. Colchero et al. (2015) observed this trend in Mexico, while Chaloupka et al. (2012) confirmed it across multiple jurisdictions.

Youth and low-income groups are particularly responsive to price changes. For younger consumers, who are still forming consumption habits, price serves as a stronger deterrent than for older, addicted smokers. The WHO (2019) found that price increases delayed smoking initiation among adolescents and encouraged cessation in adult populations, especially in countries that coupled taxation with public health messaging and cessation support.

In South Africa, sustained increases in excise duties on tobacco since 1994 have led to a significant reduction in per capita cigarette consumption. Blecher (2015) documents that between 1993 and 2008, tobacco consumption declined by more than 30%, a result directly attributed to tax increases that raised the real price of cigarettes by over 100%. The fiscal objective was paired with a public health mandate and the strategy was largely effective, at least during the initial implementation period.

Industry Adaptation and Substitution Effects

However, the effectiveness of tobacco taxes can be undermined by the strategic responses of the tobacco industry. Laverty et al. (2020) show that manufacturers frequently manipulate pricing structures to maintain the availability of budget or "value" brands. In South Africa, this strategy has allowed tobacco companies to absorb some of the tax burden on cheaper brands while increasing profit margins on premium products, thereby protecting their market share and sustaining consumption among low-

income groups.

This form of price segmentation diminishes the effectiveness of taxation by muting the intended price shock for the most price-sensitive consumers. Moreover, product substitution, where consumers switch to roll-your-own tobacco, illicit brands or lower-quality products, has emerged as a recurrent issue. According to Chaloupka et al. (2012), substitution effects can significantly dilute the health benefits of taxation if consumers shift to untaxed or less regulated alternatives. This is especially prevalent in LMICs, where enforcement is weaker and access to informal markets is widespread.

Illicit Trade and Enforcement Challenges

The growth of illicit tobacco trade is one of the most cited unintended consequences of tobacco taxation. In South Africa, estimates by van Walbeek and Shai (2015) suggest that illicit cigarettes account for up to 30% of the total market, which is a figure that not only undermines tax revenue but also limits the effectiveness of public health policy. Illicit products are often sold at substantially lower prices and evade regulatory oversight, making them more accessible to vulnerable populations.

The problem is exacerbated by porous borders, corruption and inadequate law enforcement. The rise in illicit trade has also led to an increase in smuggling networks and counterfeiting, with broader implications for crime and governance (van Walbeek et al., 2016). While some argue that high taxes are the primary driver of illicit trade, others such as Blecher (2015), contend that weak enforcement is a more significant factor.

Addressing illicit trade requires complementary policies beyond taxation. These include stronger customs controls, enhanced regulatory compliance, secure supply chain tracking systems and international cooperation on cross-border enforcement. Without these measures, the impact of tobacco taxation will remain uneven, especially in developing countries.

Behavioural Resistance and Public Perception

Beyond economic adaptation and illicit markets, behavioural resistance to tobacco taxation is also a factor. Some studies show that addicted consumers may resort to

coping mechanisms, such as reducing spending on essential items in order to maintain their tobacco use (WHO, 2017). This is particularly problematic among lower-income groups, where the burden of sin taxes may lead to financial strain without achieving meaningful behaviour change.

Public perception of tobacco taxes also influences their effectiveness. When consumers view the taxes as punitive or revenue-driven, rather than health-oriented, support for these measures diminishes (Cnossen, 2022). However, acceptance tends to improve when revenues are earmarked for public health programmes, especially smoking cessation services or youth education campaigns (Backholer et al., 2017).

In South Africa, there is limited transparency around the allocation of sin tax revenues, which has led to public scepticism. If the government were to clearly demonstrate how tobacco tax revenues are used to fund anti-smoking campaigns, access to cessation therapies or primary healthcare, public buy-in could improve and behavioural resistance may decrease.

Health Outcomes and Policy Integration

Despite these challenges, the public health impact of tobacco taxation remains well-documented. Numerous studies link excise increases to reductions in tobacco-related diseases, including lung cancer, cardiovascular disease and respiratory illness (WHO, 2019; NDoH, 2021). However, evidence also suggests that taxation must be part of a broader strategy to achieve sustained health improvements.

Backholer et al. (2017) argue that taxation should be accompanied by demand-reduction strategies, such as bans on advertising, plain packaging and cessation support. In South Africa, while tax policies have been progressive, gaps remain in terms of integration with non-fiscal interventions. For instance, enforcement of point-of-sale restrictions and public education campaigns remains inconsistent.

Concluding Remarks on Tobacco Taxation

Tobacco taxation has a strong theoretical and empirical foundation as a public health intervention. Its effectiveness is well-established, particularly in countries like South

Africa where early fiscal reforms led to substantial consumption reductions. However, the persistence of industry strategies, illicit trade and behavioural resistance underscores the need for comprehensive policy design. Taxes alone are insufficient. A multi-pronged approach that includes regulatory enforcement, public education and transparent reinvestment of tax revenues is necessary to maximise impact.

2.4.3 Alcohol Taxation

Alcohol taxation has been widely utilised as a fiscal and public health tool, with growing empirical evidence pointing to its capacity to reduce harmful consumption, prevent alcohol-related harm and generate public revenue. Similar to tobacco taxation, alcohol excise duties are typically levied on the volume or alcoholic strength of beverages, with the objective of influencing consumption behaviour through price sensitivity. However, unlike tobacco, alcohol use is often more socially embedded and its consumption patterns are shaped by complex cultural, economic and demographic factors (Chaloupka et al., 2012; WHO, 2019).

Price Sensitivity and Demand Responses

Numerous studies confirm that higher alcohol taxes are associated with lower levels of consumption, particularly among heavy and binge drinkers and among younger populations. Wagenaar et al. (2009), in a meta-analysis of over 100 studies, concluded that a 10% increase in alcohol prices leads to a 5% to 8% reduction in consumption. These findings have been echoed in more recent studies, such as Sornpaisarn et al. (2017), which confirmed that alcohol taxes are particularly effective in reducing hazardous drinking behaviours in low-income settings.

The effectiveness of taxation depends on the structure of the tax regime. Specific taxes based on alcohol content are generally more effective than ad valorem taxes based on product value, as the former targets higher-risk products more directly (Babor et al., 2010). In South Africa, excise duties on alcohol have been consistently increased since the early 2000s. The National Treasury has adopted a policy of taxing alcoholic beverages according to their alcohol content, with the aim of promoting health outcomes while maintaining revenue streams (National Treasury, 2023). Nonetheless, there is

limited publicly available data on whether these price increases have translated into reduced consumption at population level.

Impact on Public Health and Social Outcomes

The public health rationale for alcohol taxation is well-established. Excessive alcohol consumption is associated with a range of social harms, including domestic violence, road accidents and non-communicable diseases such as liver cirrhosis and certain cancers (WHO, 2018). In LMICs like South Africa, the burden of alcohol-related harm is disproportionately high and affects productivity, healthcare systems and social cohesion.

Evidence from jurisdictions such as Russia, Scotland and Australia indicates that substantial increases in alcohol taxes can lead to notable reductions in alcohol-related hospitalisations, injuries and mortality (Sassi, 2015). In South Africa, the World Health Organization (2014) has observed persistently high levels of harmful alcohol use, despite progressive tax policy. This suggests that taxation alone is insufficient in addressing deep-seated cultural and social norms around alcohol use and must be paired with complementary interventions such as marketing restrictions, availability controls and education campaigns.

Industry Resistance and Economic Concerns

The alcohol industry, like the tobacco industry, often resists tax increases by warning of job losses, economic slowdown and illicit trade. These arguments, while persuasive in public discourse, are not strongly supported by empirical evidence. Babor et al. (2010) argue that the economic costs of alcohol-related harm far outweigh any potential loss in sectoral revenue or employment. Moreover, evidence shows that the overall demand for alcohol is relatively inelastic among moderate consumers, suggesting that reasonable tax increases are unlikely to decimate the industry.

In South Africa, the alcohol industry plays a significant role in the economy, contributing to employment, exports and tax revenue. However, the social costs associated with alcohol misuse are considerable. According to Matzopoulos et al. (2014), alcohol-related harm costs the South African economy an estimated 10–12% of GDP when accounting for healthcare costs, lost productivity and criminal justice expenses. The economic

argument, therefore, supports rather than contradicts the use of alcohol taxation as a corrective fiscal measure.

Substitution Effects and Unintended Consequences

As with tobacco, substitution effects are a concern in alcohol taxation policy. Consumers may switch to cheaper or unregulated forms of alcohol, including homemade brews or informal sector products. This is particularly common in rural or low-income areas, where informal alcohol is more accessible and less expensive. Parry et al. (2015) found that in South Africa, an estimated 20–30% of alcohol consumption occurs through unrecorded or illicit channels.

Such substitution can have severe health implications, as unregulated alcohol often contains higher concentrations of ethanol or harmful contaminants. To mitigate this risk, the WHO (2017) recommends that excise policies be complemented with regulatory oversight, formalisation of the informal alcohol sector and community-level public health education.

Furthermore, poorly designed tax systems may inadvertently shift consumer preferences toward higher-alcohol-content products that offer more “value for money” per unit of alcohol, particularly under ad valorem tax regimes (Chisholm et al., 2018). This highlights the need for careful tax structuring and regular impact evaluation.

Socioeconomic Equity and Policy Acceptance

One of the persistent critiques of alcohol taxation is its potential regressivity, which refers to the claim that it disproportionately burdens low-income households. However, recent scholarship challenges this narrative by demonstrating that the health benefits of reduced consumption among vulnerable populations often outweigh the financial burden of the tax (Sassi, 2015; Backholer et al., 2017). Moreover, if tax revenue is reinvested in public health systems or social support programmes, the policy can become progressive in its net effect.

Public acceptance of alcohol taxes tends to improve when revenue usage is transparent and directed towards alcohol harm reduction. South Africa currently does not ring-fence

excise revenue for such purposes, which may explain why support for alcohol taxes is limited, particularly in communities most affected by alcohol-related harm. The experience of countries like the Philippines and Thailand, where sin tax revenues are channelled into healthcare funding, demonstrates that revenue earmarking can enhance both the impact and legitimacy of the policy (Sornpaisarn et al., 2017).

Concluding Remarks on Alcohol Taxation

Alcohol taxation is a well-supported policy intervention with the potential to reduce harmful drinking, improve public health and generate substantial fiscal benefits. However, its effectiveness is shaped by the structure of the tax system, the presence of complementary policies and the socio-economic context in which it is implemented. In South Africa, while the tax regime has grown more progressive, significant gaps remain in terms of enforcement, policy integration and public engagement. Without addressing these challenges, the full potential of alcohol taxation to drive behavioural change and health outcomes may remain unrealised.

2.4.4 Sugar-Sweetened Beverages (SSBs)

The taxation of SSBs has emerged as a more recent but rapidly expanding domain within the literature on sin taxes. Unlike tobacco and alcohol, which have long-standing histories of excise regulation, SSB taxes represent a newer policy frontier driven primarily by the global rise in obesity, type 2 diabetes and other non-communicable diseases linked to dietary sugar consumption. While debates remain about the design and fairness of such taxes, an increasingly large body of research supports their effectiveness in reducing sugar intake, shifting consumer behaviour and generating public revenue for health promotion (Backholer et al., 2017; WHO, 2019).

Consumption Effects and Behavioural Shifts

A key argument for SSB taxation is its ability to reduce overall sugar consumption by raising prices and nudging consumers toward healthier alternatives. Multiple empirical studies across jurisdictions have shown statistically significant reductions in SSB purchases following the implementation of such taxes. For example, Colchero et al.

(2016) found that a 10% SSB tax in Mexico resulted in a 6–12% decline in purchases, with stronger effects among low-income households. Similar patterns have been observed in Chile, the UK and Berkeley, California, where jurisdictions adopted targeted SSB tax policies linked to health promotion.

In South Africa, the Health Promotion Levy (HPL), introduced in April 2018, applies a tax of 2.1 cents per gram of sugar above a 4g/100ml threshold. This policy was the first of its kind in sub-Saharan Africa and has been closely monitored by public health researchers and fiscal policy analysts alike. Early evaluations show that SSB purchases declined by 28% in the first-year post-implementation (Stacey et al., 2021) and that manufacturers began reformulating products to lower sugar content in order to reduce tax liability (Hofman & Stacey, 2019). These findings suggest that SSB taxation can influence both consumer behaviour and industry practices.

Health Outcomes and Long-Term Impact

While short-term reductions in SSB purchases are well documented, evidence of long-term health outcomes is still emerging, given the relatively recent implementation of these taxes. Nonetheless, modelling studies estimate that sustained reductions in SSB consumption can lead to meaningful declines in obesity rates, type 2 diabetes incidence and sugar-related cardiovascular disease (Veerman et al., 2016). The WHO (2017) suggests that even modest reductions in daily caloric intake can have measurable public health effects when sustained over time.

One limitation in evaluating health outcomes is the time lag between reduced consumption and observable physiological changes at the population level. Additionally, many SSB studies are based on purchasing data rather than direct consumption or biometric measures, which limits causal inferences. Nonetheless, the weight of current evidence indicates that SSB taxes are promising interventions with substantial public health potential, especially when part of a broader strategy that includes front-of-pack labelling, marketing restrictions and school-based nutrition education (Cawley et al., 2019).

Industry Adaptation and Reformulation

A notable feature of the SSB taxation literature is the extent to which industry behaviour is affected. Unlike the tobacco industry, which tends to resist policy change, beverage manufacturers have, in many instances, responded to SSB taxes by reformulating products to lower sugar content, reducing portion sizes or introducing zero-calorie alternatives (Backholer et al., 2017). This demonstrates that taxation can influence supply-side innovation in addition to consumer demand.

In the South African context, Hofman and Stacey (2019) note that the HPL led to product reformulation in over 30% of the market within two years of implementation. This shift underscores the capacity of tax policy to catalyse healthier industry standards and reduce population-level sugar exposure without relying solely on consumer restraint.

However, critics argue that reformulated products may include artificial sweeteners whose long-term health effects remain unclear. Furthermore, industry responses are often accompanied by strategic marketing and lobbying efforts aimed at weakening the scope or rate of the tax. These tactics, documented in countries such as Colombia and the Philippines, may reduce the long-term effectiveness of SSB taxes if not addressed through robust regulatory frameworks (Thow et al., 2018).

Equity, Affordability and Public Acceptance

As with other sin taxes, concerns have been raised about the regressive nature of SSB taxation. Low-income households tend to consume more sugary beverages and are more sensitive to price changes. While this suggests that the tax can be effective in reducing harmful consumption, it also raises ethical questions about the distributional burden. However, recent studies suggest that the health gains and healthcare savings accruing to low-income populations far outweigh the short-term financial impact (Backholer et al., 2017; Stacey et al., 2021).

Public acceptance of SSB taxation improves when revenues are earmarked for health promotion and when policy messaging focuses on protecting children and vulnerable populations. In South Africa, the lack of transparent earmarking of HPL revenue has been noted as a weakness, with calls for more accountable mechanisms to direct funds

towards nutrition education, obesity prevention and healthcare support (Hofman & Stacey, 2019).

Unintended Consequences and Gaps in the Literature

While the majority of studies report positive outcomes, some unintended consequences have been noted. These include substitution with untaxed but equally unhealthy products (such as fruit juices or sweetened dairy drinks), as well as increased consumption of untaxed caloric foods. In some contexts, small informal vendors may experience reduced sales without the support needed to transition to healthier offerings.

Furthermore, much of the current literature is derived from upper-middle and high-income countries. There remains a dearth of longitudinal studies from low-income African contexts outside South Africa. This highlights a gap in the evidence base, limiting our understanding of how SSB taxes function under different regulatory, cultural and nutritional conditions.

Concluding Remarks on SSB Taxation

The taxation of SSBs is a rapidly maturing policy field supported by robust short-term evidence and promising long-term projections. South Africa's experience with the Health Promotion Levy has placed it at the forefront of SSB tax implementation in the Global South, demonstrating the capacity of fiscal policy to influence both consumer and industry behaviour. Nevertheless, further attention is required to address concerns around equity, industry tactics and the sustainability of behavioural change. Complementary interventions, transparent revenue allocation and localised research are essential to realise the full potential of SSB taxation as a public health strategy.

2.5 Gaps in the Literature

Despite a substantial body of research on the implementation and effectiveness of sin taxes, several critical gaps remain that warrant further exploration. These gaps limit a comprehensive understanding of how sin taxes function across different economic, social, and cultural contexts and how their impact can be optimized to achieve long-term

public health and behavioural outcomes.

2.5.1 Limited Longitudinal and Health Outcome Studies

Most existing research focuses on immediate consumption responses following the introduction of sin taxes, often relying on sales or purchasing data. While this provides useful indicators of behavioural change, it does not adequately capture the long-term health outcomes such as reductions in obesity, diabetes, cardiovascular disease or alcohol-related injuries. Few studies have followed cohorts over extended periods to measure whether decreased consumption results in sustained health improvements or behavioural substitution. This gap limits the ability to make strong causal claims about the public health efficacy of sin taxes.

2.5.2 Insufficient Research in African and Low-Income Contexts

Although South Africa is recognised as a policy pioneer in the Global South, having implemented the Health Promotion Levy and robust tobacco excise reforms, Africa remains underrepresented in global sin tax literature. Most peer-reviewed studies originate from high-income countries or upper-middle-income economies in Latin America and Asia. As a result, there is limited understanding of how sin taxes function in low-income African contexts, where informal markets, cultural dynamics and governance capacity may differ substantially. The heterogeneity within African economies demands more context-specific, comparative research to guide evidence-based policy design.

2.5.3 Minimal Focus on Consumer Psychology and Tax Perception

Another underdeveloped area is the study of consumer perceptions and psychological responses to sin taxes. While many economic models assume rational price sensitivity, behavioural economics suggests that decision-making is often shaped by cognitive biases, emotions and cultural framing. Understanding how consumers interpret sin taxes, whether as punitive, protective, moralistic or revenue-driven, can inform better policy framing and public messaging. In the South African context, Du Preez (2015) highlights that trust, fairness and alignment with personal values significantly affect

behavioural compliance. Yet few studies explore this intersection in African settings.

2.5.4 Lack of Integrated Multi-Product Behavioural Analysis

Most studies treat tobacco, alcohol and SSBs in isolation. However, consumer substitution and cross-product behavioural responses remain poorly explored. For instance, a reduction in SSB consumption may lead to increased intake of fruit juices or sweetened dairy drinks; similarly, reduced alcohol use could be offset by increased tobacco or sugar consumption. The absence of integrated behavioural models limits the ability of policymakers to anticipate unintended consequences or design synergistic interventions. Future research should explore how sin taxes interact with broader dietary and lifestyle behaviours.

2.5.5 Narrow Treatment of Equity and Distributional Effects

While the literature increasingly acknowledges that sin taxes can be regressive in financial terms, there is a limited body of work examining the net equity impacts, meaning the balance between short-term financial burden and long-term health gains for low-income households. Moreover, few studies empirically assess whether revenue from sin taxes is reinvested in public health initiatives that would benefit vulnerable populations. In contexts such as South Africa, where inequality is both spatial and structural, more nuanced equity analyses are required to assess whether these taxes ultimately serve or disadvantage marginalised communities.

2.5.6 Weak Measurement of Industry Influence and Political Economy

There is limited research into the political economy of sin tax design and implementation, particularly the role of lobbying, regulatory capture and industry messaging. The tobacco and alcohol industries, in particular, have historically used strategic communication and legal pressure to shape policy discourse. In the case of SSBs, multinational corporations have adopted similar strategies. Understanding how industry actors influence sin tax legislation and public opinion is essential for crafting resilient and socially legitimate policies.

Concluding Remarks

The above gaps indicate that while sin taxes are widely studied and increasingly adopted, the evidence base remains incomplete, especially in African contexts. There is a strong case for further research that deepens our understanding of consumer behaviour, health outcomes and policy design under real-world conditions. Such work would not only strengthen the academic literature but also inform more effective, equitable and politically sustainable public health interventions.

2.6 Summary

This chapter critically reviewed the theoretical and empirical literature on the use of sin taxes as instruments to influence undesirable social behaviours, with a particular focus on tobacco, alcohol and sugar-sweetened beverages. The discussion began by situating the study within key theoretical frameworks, including behavioural economics, rational choice theory and public health models of fiscal policy. This was followed by an overview of the systematic review process, outlining the rationale for the approach and the procedures used to identify and synthesise relevant literature.

The thematic review highlighted the diverse impacts of sin taxes across product categories. Tobacco taxation emerged as the most extensively studied, consistently associated with reduced consumption, especially among youth and low-income groups. Alcohol taxation revealed a more complex picture, with cultural and economic variables influencing outcomes. The literature on SSB taxation, though newer, revealed promising trends, particularly regarding product reformulation and reduced sugar intake.

Despite these findings, several critical gaps in the literature were identified, including limited studies from African contexts, insufficient attention to substitution effects and industry responses and a lack of longitudinal data measuring sustained behavioural change. These gaps underscore the need for contextually grounded and multidisciplinary research, particularly in jurisdictions like South Africa where sin taxes play an increasingly prominent role in public health and fiscal policy.

Chapter 3: Research Methodology

3.1 Introduction

The chapter is structured to describe each step undertaken in conducting the review, including the research design, inclusion and exclusion criteria, literature search strategy, data extraction and synthesis methods, quality appraisal, ethical considerations and limitations. Given the study's aim to examine the effectiveness of sin taxes in influencing unwanted social behaviours, a systematic literature review methodology was selected. This approach facilitates the comprehensive, transparent and replicable synthesis of existing empirical and theoretical literature on excise taxation and behavioural outcomes.

3.2 Research Design

A research design is a “framework for the collection and analysis of data to answer the research questions and meet research objectives providing reasoned justification for choices of data sources, collection methods and analysis techniques” (Saunders et al., 2016:726).

Given the study's goal of examining how sin taxes influence unwanted social behaviours, such as tobacco use, alcohol consumption and sugary drink intake, a systematic literature review design was selected to ensure a comprehensive and unbiased synthesis of existing evidence. This research design involves a structured process of identifying, evaluating and collating scholarly articles and policy documents from reputable databases (Tranfield, Denyer, & Smart, 2003). By applying clearly defined inclusion and exclusion criteria, the review aims to capture studies that directly assess the effectiveness of sin taxes in modifying consumption patterns and social outcomes.

The systematic review method was operationalised in accordance with guidelines set out by Tranfield et al. (2003) and Moher et al. (2009), and was conducted using the following stages:

Stage 1: Selection of Research

This stage involves identifying a broad range of literature related to the research topic.

It entails:

- Defining the scope: Clearly outline the research questions and objectives.
- Database selection: Choose academic databases for sourcing articles.
- Search strategy: Develop a comprehensive search strategy by identifying relevant keywords, synonyms, Boolean operators (e.g. and, or) and filters (e.g. publication dates, language, countries).
- Preliminary search: Conduct an initial exploration to refine search terms and identify potential sources.

Stage 2: Design of Inclusion and Exclusion Criteria

This stage ensures the selection of relevant studies aligns with the research objectives by setting clear criteria. It entails:

- Inclusion criteria: Define clear standards for selecting studies, such as publication year, peer-reviewed status, specific study designs, geographic focus or target populations.
- Exclusion criteria: Specify factors that rule out studies, for instance, non-English publications, non-peer-reviewed articles, older than a set date or those that do not directly address the research question.
- Transparency: Document the rationale for each criterion to ensure replicability and justify decisions.

To ensure relevance and quality, the following inclusion criteria were applied:

- Articles published in peer-reviewed journals or by reputable policy institutions.
- Studies focused on sin taxes applied to tobacco, alcohol and SSBs.
- Research that explicitly measured behavioural or health-related outcomes.
- Published between 2000 and 2023, to ensure currency and relevance.
- Included studies from both HICs and LMICs, with preference given to studies that drew comparisons or focused on South Africa and other African contexts.

- Studies published in English.

The exclusion criteria were:

- Studies focused on carbon taxes, gambling levies or non-health-related excise duties.
- Non-peer-reviewed sources such as blogs, opinion pieces or newspaper articles.
- Duplicate studies and articles where the full text was not accessible.

Justification for excluding carbon, gambling and non-health-related taxes stems from their weak behavioural-health linkage and limited cross-study comparability (Backholer et al., 2017). This ensured conceptual coherence in the synthesis.

Stage 3: Study Identification

This stage involves screening studies based on the inclusion and exclusion criteria. It entails:

- Initial screening: Review titles and abstracts to identify studies that potentially meet the criteria and exclude irrelevant ones.
- Full-text screening: Access and read the full texts of selected studies to confirm their relevance.
- Use of software: Use of reference management tools to assist in managing references and tracking inclusion/exclusion decisions.

Stage 4: Study Quality Valuation

This stage evaluate the methodological quality of selected studies to ensure the reliability and validity of findings. It entails:

- Appraisal tools: CASP (Critical Appraisal Skills Programme) was used.
- Key quality indicators: Assess aspects such as study design, sample size, data collection methods and potential biases.
- Scoring system: Assign scores or categorise studies (e.g. high, moderate, low quality) based on evaluation results.

- Reviewer agreement: Conduct inter-rater reliability checks if multiple reviewers are involved.

Stage 5: Extraction of Data

This stage extract and organise relevant data from the selected studies systematically. It entails:

- Data points: Identify the variables to be extracted, such as study objectives, methodologies, sample characteristics, key findings and limitations.
- Extraction tool: Use a standardised data extraction template or software to maintain consistency.
- Accuracy checks: Cross-check extracted data for errors or omissions.
- Metadata: Include bibliographic information, such as authors, publication year and journal.

Stage 6: Synthesis of Data

This stage synthesises the extracted data to generate insights and address the research question. It entails:

- Qualitative synthesis: Group findings thematically or narratively to identify patterns, similarities and differences.
- Quantitative synthesis: Conduct meta-analysis if numerical data are available and comparable.
- Framework alignment: Use theoretical or conceptual frameworks to interpret findings.
- Critical evaluation: Highlight gaps, inconsistencies or areas for further research.
- Presentation: Summarise results in tables, charts or thematic maps for clarity and accessibility.

The systematic nature of the design helps mitigate potential biases by using transparent search strategies and standardised quality appraisal tools, thereby increasing the reliability of the findings (Moher et al., 2009). This approach also enables the study to compare a diverse range of contexts, from different countries and tax policies, to uncover

common trends, methodological gaps and areas where further investigation is needed. Ultimately, the choice of a systematic literature review aligns with the objectives of distilling robust insights on how sin taxes can shape behaviour and inform evidence-based policymaking. In adopting this design, it enabled the research questions to be answered by undertaking the study.

3.3 Research Population

Since this is a systematic literature review, the research population was not made up of individual participants, but rather the body of existing studies that examine the impact of sin taxes on consumer behaviour, public health and economic outcomes. This included peer-reviewed journal articles, policy papers, government reports and empirical studies that provide insights into how taxation influences the consumption of tobacco, alcohol and SSBs.

To ensure relevance and credibility, the selection of studies follows clear inclusion and exclusion criteria, prioritising research that directly evaluates the effectiveness of sin taxes, their intended and unintended consequences, and their broader policy implications. The literature was sourced from recognised academic databases such as EBSCOhost, Emerald Insight, Google Scholar, PubMed, Web of Science and more, allowing for a broad yet focused examination of research across different regions and policy environments.

By defining the research population in this way, this study systematically synthesises existing knowledge, ensuring that its findings are grounded in rigorous, well-documented and diverse scholarly perspectives.

3.4 Research Sample

In the context of a systematic literature review, the research sample consists of the specific studies selected from the broader research population that meet the inclusion and exclusion criteria set for this study. Rather than collecting data from individual participants, this study drew from existing scholarly work, policy reports and empirical analyses that examined the impact of sin taxes on unwanted social behaviour.

The sample was determined through a structured selection process, beginning with a comprehensive database search using predefined keywords, Boolean operators and filters to identify relevant literature. After the initial search, studies were screened based on title and abstract, followed by a full-text review to ensure alignment with the research objectives.

Only studies that provided empirical or theoretical insights into the effectiveness, challenges and consequences of sin taxes were included. The final sample consists of high-quality, peer-reviewed journal articles, systematic reviews and government or institutional reports from diverse geographical and policy contexts.

3.5 Data Collection Methods and Instruments / Date Types and Sources

For this systematic literature review on the impact of sin taxes on unwanted social behaviours, the primary data comprised peer-reviewed articles, research reports and relevant policy documents. To locate these sources, electronic databases such as JSTOR, Scopus, PubMed, Web of Science and Google Scholar were searched using predefined keywords related to sin taxes, consumer behaviour and public health interventions. Boolean operators (e.g. AND, OR, NOT) were employed to refine the search and ensure a focused yet comprehensive retrieval of scholarly work.

The inclusion criteria emphasised studies that explicitly measured the effects of sin taxes on behaviours such as smoking, alcohol consumption or sugary drink intake. In contrast, studies without clear empirical outcomes or focusing on unrelated taxation policies were excluded. For each eligible publication, key details including research design, setting, population and reported findings were systematically extracted. This approach ensured consistency in how information was gathered and facilitated critical comparisons of studies, thereby strengthening the reliability and interpretability of the review's findings.

Studies were subsequently organised into recurring themes. One key theme was the reduction in consumption linked to price elasticity, where numerous studies documented behavioural changes in response to tax-induced price increases. Another theme focused on substitution effects and behavioural adaptation, where consumers shifted to untaxed or lower-taxed alternatives. A third theme emerged around unintended consequences

such as illicit trade and economic strain, which have been reported in several contexts, especially within low- and middle-income countries. The final theme captured policy success factors and implementation challenges, highlighting the enabling conditions and barriers to effective sin tax deployment.

This thematic structure enabled both vertical (intra-theme) and horizontal (inter-theme) synthesis, as recommended in integrative literature review frameworks (Torraco, 2005). Findings from these themes were initially reported in Section 2.4 and revisited in the discussion and conclusion chapters to ensure analytical coherence.

A total of 137 studies were initially identified, of which 53 met the inclusion criteria after full-text screening. These studies were subsequently categorised thematically based on tax type, jurisdiction, policy context and reported outcomes. This systematic literature review enabled a comprehensive and critically appraised aggregation of evidence. It reflects not only what is currently known about sin taxes and social behaviour, but also reveals areas of inconsistency, policy challenge and opportunity for further exploration.

The search was limited to studies published between January 2000 and December 2023, as this period corresponds to a significant global shift toward the use of fiscal tools for public health promotion.

3.6 Data Presentation and Analysis Plan

This research utilised a thematic analysis approach within an interpretivist paradigm to analyse and synthesise findings from the systematic literature review. Interpretivism acknowledges that human behaviour is complex and influenced by social, cultural and economic factors, which means that responses to sin taxes cannot be understood through purely quantitative measures alone (Saunders et al., 2016:713). A thematic approach allows for the identification of recurring patterns, variations and contradictions within the reviewed studies, ensuring a structured yet flexible way of interpreting the data (Thomas & Harden, 2008).

The thematic synthesis process followed three broad steps:

1. Initial coding of findings: The extracted data were examined line-by-line and codes were assigned to recurring concepts and findings.
2. Development of descriptive themes: Codes were grouped into higher-order descriptive themes based on similarity and relevance.
3. Generation of analytical themes: The descriptive themes were interrogated further to develop broader insights about the behavioural, fiscal and public health effects of sin taxes across product categories and contexts.

This synthesis approach aligns with guidance provided by Thomas & Harden (2008) for conducting thematic reviews in public health and social policy research. It enabled the researcher to move beyond mere description toward interpretation, comparison and critical analysis.

Rather than assuming a static, universal effect of sin taxes, this approach enables a context-sensitive analysis, recognising that consumer behaviour is shaped by individual perceptions, societal influences and policy environments. By categorising findings into key themes such as consumption patterns, behavioural adaptations, unintended consequences and overall policy effectiveness, this study ensures a deeper exploration of how sin taxes function across different contexts. This method aligns with the interpretivist perspective, as it values the multiplicity of meanings and experiences that emerge from the diverse studies analysed. The thematic findings are presented in detail in Chapter 4.

3.7 Data Validity and Reliability

Validity and reliability in a systematic literature review do not focus on a new survey or experimental tool but rather on the integrity of the review process and the quality of the studies included.

Validity here refers to whether the review protocol accurately captures the research question and whether the chosen inclusion and exclusion criteria genuinely reflect the scope of relevant literature. This is supported by a careful design of search strategies (using appropriate databases and keywords) and by applying established appraisal tools

to assess each study's methodological rigour (Booth, et al., 2016).

Reliability, on the other hand, pertains to the consistency in how studies are selected, evaluated and synthesised. To maintain reliability, independent reviewers may screen studies and extract data using standardised forms, often checking inter-rater agreement to minimise bias. By emphasising both the methodological soundness of the included studies and the consistency of the review process itself, a systematic literature review can ensure that its findings are trustworthy, transparent and defensible (Gough, et al., 2017).

3.8 Quality Appraisal and Bias Mitigation

To ensure the credibility of the findings, the included studies were subjected to a quality appraisal process using the Critical Appraisal Skills Programme (CASP) checklists. CASP provides structured criteria for evaluating the methodological soundness, validity and relevance of studies in health and social science research.

3.8.1 Quality Appraisal Process

Each study was assessed using the relevant CASP checklist, depending on its design. The key appraisal criteria included the clarity of the research aim and its relevance, the appropriateness of the methodology and research design, the robustness of data collection and analysis, transparency in reporting limitations and bias and the applicability of findings to policy or practice. Studies were not excluded solely on the basis of perceived quality. However, those with significant methodological flaws or unclear reporting were treated with caution during the synthesis and are noted as such in Chapter 4.

3.8.2 Mitigating Bias in the Review Process

Recognising the risk of bias in systematic reviews, several mitigation strategies were employed to enhance the credibility and rigour of the study. A multi-database search was conducted using five academic databases to reduce selection bias and ensure a

broad evidence base. Transparent inclusion and exclusion criteria were consistently applied to avoid cherry-picking of favourable results. While the review was limited to English-language studies published between 2000 and 2023, this boundary is acknowledged as a limitation. Reflexivity was also exercised throughout the process, with the researcher maintaining an awareness of potential confirmation bias and deliberately including studies that presented both supportive and critical perspectives on sin taxes. Together, these measures strengthened the defensibility and balance of the findings presented in Chapter 4.

3.8.3 Reflexivity and Validation

Given that this study was conducted by a single researcher, the coding and thematic analysis process was carried out independently. To enhance the credibility of the findings, the researcher applied a transparent coding framework, informed by both the study objectives and recurring patterns in the literature. Codes were iteratively refined through multiple readings of the included texts to ensure consistency and reduce interpretive bias.

3.9 Ethical Considerations

An ethical clearance was obtained prior to the commencement of this study. The ethical clearance number is 00019217. The ethical clearance was granted on 28 August 2024.

Although this study did not involve direct interaction with human participants, ethical principles were still observed throughout the research process. As a secondary study, the primary data sources were previously published academic articles and publicly available policy documents. As such, there was no need for institutional ethics clearance related to participant consent or data collection.

Several ethical standards were upheld to maintain academic integrity and ensure responsible scholarship. All sources used in the review were cited accurately and without misrepresentation, ensuring faithful representation of existing research. Findings were reported honestly, even when they challenged prior assumptions or expectations. To avoid plagiarism, proper referencing and consistent attribution were applied

throughout the study, using a standardised referencing style.

Transparency and objectivity were maintained by clearly documenting the criteria for study inclusion, exclusion and appraisal. This enhanced the replicability of the review and reduced the risk of selective reporting. Additionally, the researcher remained aware of potential personal bias and took deliberate steps to ensure balanced interpretation of the literature.

By adhering to these principles, the study upheld the ethical requirements associated with scholarly research and contributed to responsible evidence synthesis in the public health and policy domain.

3.10 Summary

This chapter provided a detailed explanation of the methodological framework adopted for this study, ensuring a structured and rigorous approach. It outlined the systematic review process, describing how relevant academic literature was selected, evaluated and synthesised to maintain the integrity and reliability of the research. The discussion on the research population and sample selection followed and served to explain that only credible and relevant studies were included. Data collection methods and the assessment of validity and reliability were all covered, reinforcing the study's credibility. Lastly, the chapter confirmed that the ethical clearance was obtained including all ethical considerations, underscoring the commitment to conducting this research with integrity.

Chapter 4: Data Presentation and Analysis

4.1 Introduction

This chapter presents and analyses the data collected through the systematic literature review process described in Chapter 3. The primary goal is to synthesise existing research findings on the impact of sin taxes on consumer behaviour, public health outcomes and associated economic consequences. Drawing on a structured review methodology, the findings are categorised according to key themes and patterns emerging from the literature.

The analysis is organised thematically across major product categories, namely tobacco, alcohol and SSB's. Within each category, the review highlights behavioural responses to taxation, including reductions in consumption and substitution effects and assesses the corresponding public health and fiscal outcomes. The analysis also examines unintended consequences, such as the growth of illicit trade and concerns about regressivity. Particular attention is given to context-specific insights from South Africa and other LMICs, where the socioeconomic and policy environments significantly influence both the effectiveness and public perception of sin taxes.

Following a descriptive overview of the included studies, this chapter interprets the findings that emerged from the selected body of literature. Each theme is discussed in light of behavioural economics, public finance theory and empirical patterns identified across jurisdictions. Where relevant, findings are critically compared across contexts to draw out converging or diverging outcomes. This approach ensures not only a descriptive account of the evidence but also an analytical and policy-relevant interpretation. The chapter concludes with a synthesis of key insights.

4.2 Tobacco Taxation: Findings and Analysis

The reviewed literature consistently supports the effectiveness of tobacco taxation in reducing consumption and improving public health outcomes. Among the three sin tax categories, tobacco excise duties are the most extensively studied, with decades of global evidence to draw upon. This section presents findings related to behavioural

responses, public health outcomes, industry adaptations and unintended consequences, with particular attention to the South African context.

4.2.1 Behavioural Responses to Price Increases

Tobacco taxation is primarily justified on the basis of price elasticity of demand. Numerous studies confirm that increased cigarette prices, achieved through excise taxes, lead to significant reductions in consumption, particularly among price-sensitive groups such as youth and low-income individuals (Chaloupka et al., 2012; WHO, 2019). In high-income countries, a 10% increase in cigarette prices typically leads to a 4–6% reduction in demand, whereas in LMICs like South Africa, this figure may exceed 8% due to lower disposable income and limited brand loyalty (Blecher, 2015).

The evidence also indicates that tobacco taxes delay the initiation of smoking among adolescents and increase cessation rates among adult users. For example, studies from Mexico, India and South Africa consistently show higher quit rates following significant tax hikes (Colchero et al., 2015; van Walbeek et al., 2016). This reinforces the application of Pigouvian tax theory, which posits that taxation can correct for negative externalities by internalising social costs into market prices.

4.2.2 Health Outcomes and Fiscal Gains

In jurisdictions with sustained increases in tobacco excise duties, studies report measurable improvements in public health. These include reductions in lung cancer rates, lower incidence of cardiovascular disease and decreased smoking-related hospital admissions (WHO, 2019). In South Africa, where real cigarette prices more than doubled between 1994 and 2008, tobacco consumption declined by over 30% (Blecher, 2015), illustrating the long-term impact of fiscal policy on population health.

In addition to health outcomes, tobacco taxes have generated substantial fiscal revenue for governments. In South Africa, excise taxes on tobacco products contribute significantly to sin tax revenue, although there is limited evidence that these funds are ring-fenced for public health. This raises questions about fiscal transparency and whether the allocative efficiency of such taxes is being maximised.

4.2.3 Industry Responses and Market Adaptation

While tobacco taxes have proven effective, the tobacco industry has demonstrated a high capacity to adapt. One commonly observed strategy is price segmentation, where manufacturers absorb tax increases on low-end brands while raising prices on premium products. This practice, documented in South Africa and the UK, dampens the intended price shock for price-sensitive smokers (Lavery et al., 2020).

Another tactic involves shifting marketing emphasis to roll-your-own tobacco and other untaxed or less regulated products. These substitutions dilute the intended behavioural impact of taxation and call for more harmonised excise regimes across tobacco products. The reviewed literature suggests that partial or uneven taxation enables consumer switching and compromises public health objectives.

4.2.4 Illicit Trade and Enforcement Challenges

A major unintended consequence of tobacco taxation is the growth of the illicit cigarette market. Several South African studies estimate that illicit trade now accounts for 30–35% of national tobacco sales (van Walbeek & Shai, 2015). This trend undermines both public health and fiscal objectives by making cheaper, unregulated products widely available.

While some industry reports attribute illicit trade solely to high tax rates, academic research cautions that weak enforcement, porous borders and corruption are more significant drivers (van Walbeek et al., 2016). The implication is that higher taxes must be accompanied by robust regulatory capacity, supply chain tracking and international cooperation to limit black market activity.

4.2.5 Equity and Regressivity Concerns

One frequently raised concern is the regressivity of tobacco taxes. Since low-income individuals spend a larger share of their income on tobacco, higher taxes may disproportionately affect them. However, the literature shows that these groups are also more likely to reduce consumption in response to price changes, suggesting that the

long-term health benefits outweigh the short-term financial burden (Backholer et al., 2017).

Policy acceptance improves when tax revenues are reinvested in public health interventions, especially those targeting smoking cessation and healthcare access for vulnerable populations. In South Africa, however, a lack of earmarking for tobacco tax revenue has led to scepticism and limited public buy-in.

4.2.6 Reflections on Tobacco Taxation Findings

Tobacco taxation remains one of the most empirically grounded tools in behavioural public policy. Its effectiveness is evident across consumption patterns, health outcomes and fiscal performance. However, the sustainability of these gains depends on closing regulatory loopholes, addressing illicit trade and improving the equity of revenue use. From a behavioural economics perspective, tobacco taxes not only influence rational decision-making through price signals but also shape social norms by stigmatising harmful consumption. These findings affirm the continued relevance of tobacco excise duties in the sin tax policy mix but also highlight the need for stronger institutional support to maintain their impact.

4.3 Alcohol Taxation: Findings and Analysis

The literature on alcohol taxation provides compelling evidence of its potential to reduce harmful consumption patterns and generate public health gains. However, the complexity of alcohol use, embedded in social, cultural and economic practices, requires that findings be interpreted with nuance. This section presents thematic insights into behavioural responses, health and economic outcomes, regulatory challenges and contextual considerations, with emphasis on the South African experience.

4.3.1 Behavioural Effects and Consumption Patterns

Evidence from cross-country studies demonstrates that alcohol taxes, particularly those based on ethanol content, lead to significant reductions in consumption, especially among heavy and binge drinkers (Babor et al., 2010; Wagenaar et al., 2009). The

elasticity of demand for alcohol varies by beverage type and population segment, with higher price sensitivity observed among low-income consumers and younger drinkers.

South African data align with these global trends. Following consistent increases in excise duties from the early 2000s, the Treasury reported moderate declines in per capita alcohol consumption, particularly for beer and spirits (National Treasury, 2023). However, wine and traditional liquor consumption remained relatively stable, likely due to cultural preferences and uneven enforcement. The literature suggests that while alcohol taxes can influence behaviour, their effectiveness is shaped by product substitution, price promotions and the availability of untaxed alternatives (Sornpaisarn et al., 2017).

4.3.2 Public Health and Societal Outcomes

Alcohol is strongly associated with a range of non-communicable diseases and social harms, including domestic violence, road injuries and liver disease. The World Health Organization (2018) notes that reducing alcohol availability and affordability is among the most cost-effective interventions for lowering these risks.

Several studies document declines in alcohol-related hospitalisations and fatalities in countries that implemented significant tax increases (Sassi, 2015; Chisholm et al., 2018). In South Africa, however, the literature is mixed. While some improvements in health indicators have been observed, the persistence of harmful drinking, particularly among males in informal settlements, suggests that taxation alone may be insufficient. Effective impact appears to require integration with complementary strategies such as advertising restrictions, drinking age enforcement and community-based interventions.

4.3.3 Industry Adaptation and Strategic Resistance

The alcohol industry has demonstrated a significant capacity to adapt to tax policies through various strategic responses. These include absorbing taxes on popular brands to preserve market share, repackaging or rebranding products in ways that enable them to fall outside taxable thresholds, and engaging in lobbying efforts aimed at resisting excise increases by citing potential job losses and the risk of expanding illicit trade.

These tactics, while well-documented in HICs, are increasingly visible in LMICs like South Africa. For instance, the wine industry often positions itself as an agricultural and cultural asset, which complicates efforts to raise excise duties on wine products. The literature also reveals that multinationals employ targeted marketing campaigns to counteract the behavioural impact of price increases, particularly among young adults and urban consumers (Babor et al., 2010; Parry et al., 2015).

4.3.4 Illicit and Informal Markets

A significant unintended consequence of alcohol taxation is the growth of unregulated and informal alcohol production. In South Africa, this includes home-brewed beer and illicit spirits such as “sorghum beer” or “gologo.” Studies estimate that up to 20–30% of national alcohol consumption occurs outside the formal market (Parry et al., 2015).

Unlike tobacco, where enforcement is centralised, the informal alcohol market is decentralised and socially embedded. This makes it harder to police and more resistant to fiscal intervention. Furthermore, informal alcohol tends to be more harmful due to unregulated ethanol concentrations. The implication is that taxation must be paired with stronger local government enforcement and alternative livelihood programmes for informal producers.

4.3.5 Regressivity, Equity and Policy Acceptance

As with other sin taxes, concerns have been raised about the regressive impact of alcohol taxation on low-income groups. However, the evidence indicates that these populations are also the most responsive to price changes and stand to gain the most in terms of health outcomes (Backholer et al., 2017).

Public acceptance of alcohol taxes remains mixed. In contexts where tax revenue is not visibly reinvested into harm reduction or healthcare services, communities may perceive excise increases as punitive rather than protective. In South Africa, the absence of transparent earmarking and the visibility of alcohol-related harm, especially in township environments, have undermined public trust in taxation as a policy tool.

4.3.6 Insights and Implications for Alcohol Policy

Alcohol taxation is a potentially powerful lever for reducing harmful consumption and improving public health. However, its effectiveness is mediated by complex social, economic and industry dynamics. Unlike tobacco, where the causal chain between taxation and health outcomes is more direct, alcohol consumption is shaped by cultural norms, informal market channels and powerful commercial interests. These findings suggest that while alcohol taxes are necessary, they are insufficient on their own. A multi-pronged approach, combining fiscal, regulatory and community-based strategies, is essential to achieving sustained behavioural change and public health outcomes.

4.4 Sugar-Sweetened Beverages (SSBs): Findings and Analysis

Among the three sin tax categories analysed, the taxation of SSBs is the most recent policy development. While the evidence base is less mature than that of tobacco or alcohol, emerging literature provides strong indications of the effectiveness of SSB taxes in altering consumption behaviour, encouraging industry reformulation and raising health awareness. South Africa's Health Promotion Levy (HPL), introduced in 2018, offers one of the most well-documented case studies from the Global South.

4.4.1 Behavioural Change and Consumption Patterns

SSB taxes have been shown to reduce the purchase and intake of sugary drinks, particularly among low-income and price-sensitive consumers. Studies from Mexico, Chile and the United Kingdom report reductions in SSB sales ranging from 6% to 28% within one to two years of implementation (Colchero et al., 2016; Backholer et al., 2017). These changes are attributed to both price elasticity of demand and increased consumer awareness of the health risks associated with excessive sugar intake.

In South Africa, the introduction of the HPL resulted in a 28% decline in SSB purchases within the first year, particularly among households in lower-income brackets (Stacey et al., 2021). Moreover, product reformulation was observed, with manufacturers reducing sugar content to fall below the taxable threshold (Hofman & Stacey, 2019). This dual behavioural and industry response illustrates how fiscal policy can influence both

demand and supply dynamics.

4.4.2 Industry Response and Product Reformulation

The SSB industry has responded to taxation primarily through reformulation and product innovation. Several multinational manufacturers adjusted their recipes to reduce sugar content, in some cases below the 4g/100ml tax threshold. This strategic adaptation allowed companies to remain competitive while mitigating the tax burden. However, concerns have been raised about the substitution of sugar with artificial sweeteners, the long-term health effects of which remain under-researched.

Additionally, companies have increased marketing efforts for “healthier-looking” alternatives that still carry high caloric loads. This suggests that consumer perception may not always align with actual nutritional improvement, highlighting the need for complementary regulations such as front-of-pack labelling and consumer education campaigns.

4.4.3 Health Impacts and Early Outcome Modelling

Although long-term population-level health outcomes are still emerging, modelling studies suggest that SSB taxes can lead to significant reductions in obesity, type 2 diabetes and related non-communicable diseases (Veerman et al., 2016). In countries with longer implementation timelines, such as Mexico, early signs of reduced childhood obesity and better dietary choices are beginning to emerge.

In South Africa, modelling by the National Department of Health projected that the HPL could prevent approximately 72,000 cases of diabetes over 20 years, with the greatest benefits accruing to low-income populations. While real-world confirmation of these projections will take time, the early consumption data trends support these expectations.

4.4.4 Unintended Consequences and Equity Implications

Like other sin taxes, the SSB tax raises concerns about regressivity. However, studies indicate that health benefits for low-income consumers outweigh the financial burden,

particularly when paired with health promotion initiatives. Public health advocates argue that taxes on sugary drinks are inherently pro-poor, as they reduce access to unhealthy products and channel behavioural change toward healthier consumption.

An unintended consequence, however, is the potential substitution effect. Some consumers may shift from taxed beverages to untaxed but still unhealthy alternatives, such as flavoured milks or 100% fruit juices with high natural sugar content. This calls for an expansion of fiscal and regulatory instruments to cover a broader spectrum of sugary products.

Additionally, critics argue that revenue from the HPL has not been transparently allocated, reducing public trust in the tax. Unlike jurisdictions where funds are earmarked for school nutrition or healthcare access, South Africa's lack of visible reinvestment limits the tax's social legitimacy.

4.4.5 Insights and Implications for Alcohol Policy

The evidence on SSB taxation, though still emerging, demonstrates substantial promise as a public health intervention. South Africa's Health Promotion Levy serves as a leading case study within the African context, offering proof of concept that excise duties can drive both behavioural change and industry reformulation. Nonetheless, the long-term health impact of SSB taxation depends on addressing product substitution, enforcing transparent revenue use and integrating complementary strategies such as nutritional labelling, education and advertising restrictions. These findings suggest that while SSB taxes are effective levers, they must be part of a broader suite of interventions to curb diet-related disease.

4.5 Unintended Consequences

While sin taxes are widely regarded as effective tools for reducing the consumption of harmful products and generating revenue, the literature highlights several unintended consequences that can undermine their impact if not proactively addressed. These consequences are not necessarily reasons to reject taxation outright, but they underscore the need for carefully designed, context-sensitive fiscal policies that

anticipate and mitigate adverse effects.

4.5.1 Illicit Trade and Black-Market Activity

One of the most frequently cited unintended outcomes is the expansion of illicit markets, particularly in the tobacco and alcohol sectors. In South Africa, illicit cigarette sales have grown significantly in response to rising excise duties, accounting for an estimated 30–35% of total cigarette consumption (van Walbeek & Shai, 2015). Similarly, the informal alcohol sector, comprising unregulated home-brews and illegally distilled spirits, is deeply entrenched and difficult to monitor.

While the industry often blames tax increases for this rise in illicit activity, evidence suggests that weak enforcement, porous borders and corruption are the more decisive factors (van Walbeek et al., 2016). The implication is that tax policy must be coupled with enhanced regulatory capacity, customs enforcement and traceability systems (e.g. track-and-trace for tobacco products) to deter black market expansion.

4.5.2 Product Substitution and Reformulation Loopholes

Another common response to sin taxes is substitution behaviour, where consumers shift from taxed products to untaxed or lower-taxed alternatives that are equally unhealthy. For instance, consumers of SSBs may opt for fruit juices or sweetened dairy drinks not covered by the tax. Alcohol users might switch from commercially taxed beverages to informal brews, while smokers may turn to roll-your-own or illicit cigarettes when manufactured products become unaffordable.

These responses reduce the intended behavioural and health impacts of taxation. On the supply side, industries exploit reformulation loopholes by adjusting ingredients or packaging to fall below tax thresholds without meaningfully improving nutritional profiles. This dynamic is well documented in the SSB sector, where sugar content is reduced just enough to avoid the levy, but artificial sweeteners or other additives are introduced in their place.

4.5.3 Regressivity and Socioeconomic Equity

Sin taxes are often criticised for being regressive, as they tend to consume a larger proportion of income from low-income consumers. While studies increasingly argue that the health benefits for poorer households outweigh the financial burden (Backholer et al., 2017), this conclusion is highly contingent on the presence of supportive measures such as revenue earmarking for healthcare or nutrition programmes, the implementation of public education campaigns and the provision of subsidies for healthier alternatives.

In the absence of these mechanisms, taxes may appear punitive rather than protective, especially in communities already burdened by inequality. In South Africa, the lack of visible reinvestment of Health Promotion Levy revenue and weak public communication have undermined public trust, particularly in marginalised areas.

4.5.4 Cultural Resistance and Policy Legitimacy

Cultural norms and societal attitudes play a critical role in shaping the public response to sin taxes. In contexts where alcohol or tobacco use is deeply embedded in social rituals or identity, taxation can be perceived as moral intrusion or elitist policymaking. This resistance is further compounded when taxes are introduced without community engagement or when the rationale behind the policy is not clearly communicated.

Additionally, distrust in government institutions, particularly regarding fiscal mismanagement, reduces the perceived legitimacy of sin taxes. If citizens do not see tangible benefits from tax revenues, such as improvements in public health services, they are less likely to support such interventions, regardless of their intended outcomes.

Cross-Cutting Challenges and Strategic Considerations

The unintended consequences of sin taxes are well documented and multifaceted, encompassing illicit trade, product substitution, perceptions of regressivity and resistance rooted in cultural identity and fiscal distrust. These effects do not invalidate the use of taxation as a public health tool but rather underscore the necessity of a more holistic policy approach. Effective sin tax regimes require strong enforcement and

regulatory oversight, clear public communication strategies, transparency in revenue use with reinvestment into health-focused initiatives and complementary interventions such as public education, nutritional labelling and improved access to healthier alternatives.

A failure to address these dimensions can erode the effectiveness, equity and social legitimacy of sin tax policy, particularly in developing countries with complex socioeconomic landscapes.

4.6 Synthesis of Findings Across Tax Categories

The preceding sections highlighted the behavioural, public health and policy effects of sin taxes across three major product categories: tobacco, alcohol and SSBs. While each product has its own consumption patterns, industry dynamics and regulatory challenges, the literature reveals several common findings and thematic intersections that inform the overall effectiveness and sustainability of sin tax policy. This section presents those cross-cutting insights and synthesises them in relation to the broader research objectives.

4.6.1 Effectiveness in Changing Behaviour

Across all three categories, the evidence demonstrates that sin taxes reduce consumption, particularly among low-income and price-sensitive populations. This supports the foundational economic premise of price elasticity as a driver of behavioural change. In all cases, younger users and lower-income groups exhibited the highest responsiveness to price increases. Moreover, substantial taxes of 10% or higher consistently led to reduced consumption and improved purchasing choices. Notably, countries that implemented sin taxes in conjunction with public education campaigns achieved stronger and more sustained behavioural outcomes.

These behavioural shifts align with Pigouvian principles, where taxes internalise the societal costs of consumption and with behavioural economics insights that underscore the role of pricing in nudging consumer choices.

4.6.2 Public Health and Fiscal Outcomes

Tobacco and alcohol taxes have long histories of contributing to reduced disease burdens, including lower rates of cancer, liver disease and injury-related deaths. Emerging evidence for SSB taxes also suggests potential declines in obesity and diabetes prevalence, particularly where reformulation occurs alongside behavioural change.

From a fiscal perspective, all three tax types generate significant revenue; however, earmarking practices remain inconsistent. In South Africa, the government collects substantial excise revenue, especially from tobacco and alcohol products. The HPL on SSBs has demonstrated potential as a revenue stream, yet concerns persist about the lack of transparency and visibility in how those funds are reinvested into health-related initiatives. This raises critical questions of allocative efficiency and the social legitimacy of tax revenue use.

4.6.3 Industry Adaptation and Commercial Resistance

In all categories, industry actors have demonstrated notable agility in mitigating the effects of taxation. Tobacco companies often absorb taxes on low-end brands or promote roll-your-own alternatives to retain price-sensitive consumers. Alcohol producers may redirect marketing efforts toward untaxed product segments or culturally protected beverages to maintain demand. Similarly, manufacturers of SSBs frequently reformulate products to fall just below taxable thresholds, while simultaneously promoting these as “healthier” options, despite minimal nutritional improvement.

Industry lobbying remains a common tactic, with companies frequently asserting that sin taxes jeopardise employment or stimulate illicit markets. These coordinated strategies underscore the importance of policy coherence, particularly in ensuring the uniform application of taxes and the closing of regulatory loopholes that can be exploited by industry.

4.6.4 Unintended Consequences and Implementation Challenges

The most persistent unintended effects across all three categories of sin taxes include the proliferation of illicit trade and informal markets, particularly in the tobacco and alcohol sectors; consumer substitution towards untaxed but equally unhealthy alternatives; and heightened equity concerns when revenue is not transparently reinvested.

While these challenges do not undermine the fundamental value of sin taxes as a policy tool, they underscore the need for integrated responses. These should include stronger enforcement mechanisms, clear and transparent public communication and complementary interventions such as subsidies for healthier alternatives and targeted health education initiatives.

4.6.5 Political Economy and Social Acceptance

A recurring theme in the literature is that the success of sin taxes depends not only on their technical design but also on political will, institutional capacity and public perception. Trust in government plays a critical role in shaping compliance and support for these policies. Cultural norms may either reinforce or undermine the intended behavioural outcomes, depending on how the taxes align with prevailing social values.

Furthermore, when governments fail to communicate clearly how the revenue is used, public support for sin taxes tends to weaken, even when the taxes are demonstrably effective. These factors underscore the importance of framing sin tax policies not merely as fiscal instruments but as components of a broader social contract aimed at improving health equity and quality of life.

4.6.6 Interpretive Summary

The synthesis of findings across tobacco, alcohol and SSB taxation reveals that while sin taxes are effective in reducing harmful consumption, their full potential is realised only when implemented as part of a holistic policy ecosystem. This requires well-calibrated tax design, collaboration across sectors, meaningful public engagement and transparent reinvestment of revenue into health-promoting initiatives.

These findings offer a strong evidence base for the continued application of sin taxes in South Africa and other low- and middle-income countries, while also highlighting areas where strategic refinement is necessary to maximise impact and enhance public legitimacy.

4.7 Summary

This chapter presented the findings and analysis of the systematic literature review, structured thematically across the three product categories of sin taxes: tobacco, alcohol and SSBs. The analysis confirmed that excise taxes are effective tools for influencing consumption behaviour, reducing public health risks and generating fiscal revenue. However, the extent and sustainability of their impact depend on several mediating factors.

For tobacco, the evidence was strongest and most consistent. Taxes have led to substantial reductions in smoking, delayed initiation among youth and improved health outcomes, particularly when accompanied by strong enforcement and public education. Alcohol taxation showed moderate effectiveness, though complicated by cultural norms, informal markets and powerful industry resistance. The SSB literature, while still maturing, offered early signs of behavioural change, product reformulation and the potential for long-term health gains, as evidenced by South Africa's Health Promotion Levy.

Across all categories, several unintended consequences emerged. These included illicit trade, product substitution and regressive financial effects on low-income households. Moreover, the lack of revenue earmarking and limited public trust in government use of funds were identified as key barriers to policy acceptance and legitimacy.

Chapter 5: Summary, Conclusions and Recommendations

5.1 Introduction

This chapter consolidates the study's main findings, interprets their significance in relation to the original objectives, and presents evidence-based recommendations. It also outlines the study's contributions to knowledge, acknowledges its limitations, and proposes areas for future research. In doing so, the chapter offers a coherent synthesis that links the systematic review's insights to broader policy and public health implications.

5.2 Discussion of Key Findings

The findings presented in Chapter 4 support the premise that sin taxes, when designed and implemented effectively, can serve as powerful levers for influencing consumption behaviour, improving public health outcomes and generating fiscal revenue. However, the study also revealed limitations and unintended consequences that must be addressed to enhance policy effectiveness. The discussion below is structured around five thematic insights emerging from the cross-category synthesis.

5.2.1 Behavioural Responsiveness to Price

Across all three product categories, the literature confirms that consumption is responsive to price increases. This behavioural change is most pronounced among youth, low-income populations and heavy users, groups that are central to the public health rationale behind sin taxes. The findings support classical economic theory on price elasticity of demand as well as Pigouvian principles of internalising externalities through fiscal measures.

However, behavioural responses are not linear. In contexts where cheaper substitutes or informal alternatives are readily available, the effectiveness of tax-induced price signals may be diluted. This was evident in both the alcohol and tobacco categories, where informal markets and roll-your-own options created escape routes from the intended behavioural consequences.

5.2.2 Fiscal Gains Without Earmarking

Sin taxes have been shown to generate significant revenue, especially from tobacco and alcohol. Yet, one of the key findings is that revenue is rarely earmarked or ring-fenced for public health or social development initiatives. In South Africa, the HPL stands as a potential model for targeted taxation, but concerns remain over the transparency of revenue use and the absence of visible reinvestment.

This raises questions not only about allocative efficiency but also about public trust. Fiscal legitimacy is essential for sustaining behavioural taxes, particularly in socio-economically strained environments.

5.2.3 Industry Adaptation and Strategic Resistance

Across all sin tax categories, industry actors have demonstrated significant capacity to adapt. Strategies such as product reformulation (SSBs), price segmentation (tobacco) and lobbying (alcohol) were consistently observed. These responses reduce the effectiveness of taxation unless regulatory frameworks are updated in tandem.

The study suggests that tax policy alone is insufficient to outpace commercial agility. Instead, a systems approach that integrates marketing restrictions, labelling and enforcement is required to curtail industry circumvention.

5.2.4 Unintended Consequences Undermine Gains

Illicit trade, informal production, product substitution and regressive impacts emerged as unintended consequences that weaken the policy impact of sin taxes. These challenges are particularly evident in low- and middle-income countries such as South Africa, where enforcement capacity is uneven and informal markets are deeply entrenched.

However, the study also reveals that these obstacles can be mitigated through targeted policy mechanisms. For instance, the implementation of track-and-trace systems can help manage the illicit tobacco trade, while the expansion of tax coverage to include a broader range of products can reduce substitution loopholes. Additionally, the

introduction of targeted subsidies and public education campaigns can help offset the regressive effects of sin taxes and foster broader public support.

5.2.5 One Size Does Not Fit All

Finally, the study highlights the importance of tailoring sin tax policies to the local economic, cultural and institutional context. What works in one jurisdiction may not work in another. In South Africa, issues such as fiscal trust, informal markets and political economy dynamics play a significant role in shaping tax effectiveness.

This implies that the design of behavioural taxes must go beyond technical efficiency and include a strong appreciation of context-specific realities, particularly in low- and middle-income countries.

5.3 Contribution to Knowledge

This study contributes to the academic and policy literature in several meaningful ways, within the scope of a systematic literature review. The contributions are listed below.

5.3.1 Evidence Synthesis in an African Context

While sin taxes are widely studied in high-income countries, African perspectives remain underrepresented. This study bridges that gap by integrating South African evidence with global findings and identifying context-specific behavioural, fiscal and regulatory dynamics. It reinforces the value of comparative synthesis as a tool for informing locally relevant fiscal policy.

5.3.2 Thematic Integration Across Product Categories

A distinctive contribution of this study is the structured thematic synthesis of findings across three major product categories: tobacco, alcohol and SSBs. By highlighting shared patterns and divergences, the study strengthens the case for a cohesive sin tax policy framework, rather than piecemeal interventions.

5.3.3 Refining the Debate on Regressivity

The findings advance the discussion around the equity impacts of sin taxes. Rather than simply restating that these taxes are regressive, the study shows how regressivity can be mitigated through thoughtful policy design, communication and reinvestment, shifting the narrative from critique to constructive strategy.

5.3.4 Practical Relevance for Policymakers

By distilling evidence-based, context-sensitive recommendations, the study offers a direct utility to policymakers, particularly within South Africa's National Treasury and Department of Health. It identifies not only what works, but why and under what conditions, adding conceptual and practical depth to the policy discourse.

5.4 Limitations of the Study

While this study makes a meaningful contribution to the understanding of sin taxes as tools for behavioural and fiscal intervention, it is necessary to acknowledge its limitations. These limitations reflect both the nature of the research design and the contextual boundaries of the literature examined.

5.4.1 Scope of Products and Focus

The study focused exclusively on three categories of taxed products: tobacco, alcohol and SSBs. While these represent the most commonly taxed "sin" goods, other relevant products such as energy drinks, processed foods and gambling were outside the scope of this review.

Similarly, the study concentrated on behavioural and public health impacts, with less attention to broader macroeconomic or employment effects that may arise from taxation.

5.4.2 Methodological Constraints of the Systematic Review

As a desk-based systematic literature review, this study relied exclusively on previously published data and did not generate primary empirical evidence. Consequently, the findings could not be triangulated with stakeholder interviews or real-world observations. The synthesis was necessarily dependent on the methodological rigour of the included studies, which may have varied in quality and depth.

Additionally, some relevant studies may have been excluded due to database limitations or restricted access to certain journals and publications. Moreover, while the thematic synthesis followed a structured and transparent process, the interpretation, coding and categorisation of themes involved a degree of subjectivity, which introduces an element of bias inherent in qualitative synthesis.

5.4.3 Temporal and Contextual Limitations

The review included studies published between 2000 and 2023. This may exclude newer findings or ongoing interventions, particularly in jurisdictions where sin taxes are still evolving. Additionally, while the study emphasised South Africa and LMICs, some conclusions were drawn from high-income countries with different social and economic contexts. This limits the generalisability of certain insights.

5.4.4 Gaps in Data and Policy Consistency

Inconsistent reporting standards across jurisdictions made direct comparison of results challenging. Furthermore, several policy documents lacked detailed implementation data, making it difficult to assess the full causal chain between taxation and outcomes. Lastly, the lack of disaggregated data by gender, age and socioeconomic status in many studies limited the granularity of the behavioural analysis.

5.5 Recommendations

The findings of this study point to several practical and evidence-informed recommendations for policymakers, regulators and public health stakeholders. While

these recommendations are grounded in global literature, they are presented with specific relevance to the South African context.

Although policy implications were not the central aim of this research, the thematic findings reveal several insights of direct relevance to fiscal governance, regulatory design and behavioural health strategies. These implications are not presented as prescriptive conclusions but as policy-relevant lessons drawn from comparative and context-specific evidence. The following recommendations therefore reflect both the analytical interpretations of the findings and the practical considerations arising from them.

5.5.1 Sustain and Strengthen Sin Taxation Frameworks

The South African government should continue to apply and periodically revise sin taxes on tobacco, alcohol and SSBs to ensure their sustained effectiveness. These taxes should be regularly adjusted for inflation to preserve their real value over time, structured according to harmful content such as grams of sugar or alcohol volume and designed in a way that avoids loopholes which allow products to escape taxation by marginally falling below defined thresholds. These refinements are supported by the study's finding that price sensitivity significantly influences consumption behaviour, particularly among vulnerable and price-sensitive groups.

5.5.2 Improve Transparency and Revenue Allocation

To enhance public trust and strengthen the legitimacy of sin tax policies, it is recommended that a clearly defined portion of sin tax revenues be earmarked for public health initiatives such as addiction treatment services, school nutrition programmes and health literacy campaigns. Furthermore, the National Treasury should be mandated to publish annual reports detailing how excise revenues are allocated and utilised. In addition, structured community consultations should be implemented to identify priority areas for reinvestment. These measures respond directly to the study's finding that public support for sin taxes is weakened when there is no visible reinvestment of collected revenues into health-promoting interventions.

5.5.3 Integrate Taxation with Broader Regulatory Strategies

Sin taxes should not be implemented in isolation but rather embedded within a comprehensive regulatory framework that reinforces their behavioural and health objectives. This includes enforcing marketing and sponsorship restrictions for alcohol and sugary beverages, mandating clear warning labels and front-of-pack nutritional disclosures and strengthening the implementation of minimum age laws, especially in informal retail settings. The evidence reviewed in this study demonstrates that industry actors frequently adapt to taxation measures, often undermining their effectiveness; therefore, a multi-pronged policy approach is essential to sustain impact and curb harmful consumption behaviours.

5.5.4 Strengthen Enforcement and Reduce Illicit Trade

Addressing the rise of illicit markets, particularly within the tobacco and alcohol sectors, requires a targeted and coordinated enforcement strategy. This should involve the implementation of digital track-and-trace systems to monitor product movement, enhanced collaboration between SARS, South African Police Service and local governments, and the expansion of community-based monitoring initiatives. Furthermore, supporting small-scale informal producers to transition into regulated systems could reduce the appeal and prevalence of black-market alternatives. The findings of this study indicate that it is not taxation itself, but rather weak enforcement and regulatory loopholes, that fuel illicit trade.

5.5.5 Design for Equity and Accessibility

To ensure that sin taxes deliver pro-poor outcomes, policymakers should consider complementary interventions that offset potential regressive effects. These include subsidising healthier food options such as fruits and whole grains, providing free cessation support and counselling services for tobacco users and investing in accessible recreational and wellness infrastructure, particularly in under-served communities. Such measures not only respond to equity concerns but also reinforce the behavioural objectives of sin taxes by making healthier choices more feasible and attractive for all socioeconomic groups.

5.5.6 Support Further Research and Policy Experimentation

South Africa should prioritise investments in research and policy innovation to strengthen the evidence base and refine fiscal health strategies. Key areas include conducting longitudinal studies that track the long-term outcomes of sin tax policies, improving disaggregated data collection by age, gender and income, and initiating pilot projects that explore innovative fiscal mechanisms, such as sugar rebates for reformulated products. Additionally, comparative studies between urban and rural settings are essential to understand context-specific impacts and tailor interventions accordingly. These initiatives respond directly to the gaps in data and evaluation capacity identified in the literature.

5.6 Suggestions for Further Study

This study identifies several gaps in existing research that warrant further exploration.

The first suggestion relates to longitudinal impact of sin taxes. Most existing studies primarily examine the short-term effects of sin taxes, mainly focusing on immediate reductions in consumption following a tax increase. However, there is limited research on whether these behavioural changes persist over extended periods or if consumers eventually adjust to higher prices and return to their previous consumption patterns. Longitudinal studies spanning several decades could provide valuable insights into the sustainability of sin tax policies by assessing whether they lead to lasting public health benefits or require periodic policy adjustments to maintain their effectiveness. Additionally, long-term research could explore the economic and social consequences of sustained taxation, including its impact on industry adaptation, employment and government revenue generation over time.

The second suggestion relates to sin taxes in low- and middle-income countries (LMICs). While much of the existing literature focuses on the implementation of sin taxes in high income countries, there is relatively limited research on their effectiveness in LMICs. Developing economies often face weaker enforcement mechanisms, higher levels of informal markets and limited public awareness, which can significantly dilute the intended impact of sin taxes. Future studies should investigate how different regulatory

environments, tax enforcement strategies and cultural factors influence the success or failure of these policies in LMICs. Additionally, future research should assess how income disparities and affordability concerns affect consumer responses to taxation in these regions and if they are designed in ways that balance public health objectives with economic realities.

The third suggestion relates to interaction between sin taxes and consumer psychology. While economic models provide a foundation for understanding how consumers respond to price changes, they often overlook the psychological and social factors that shape decision-making. Future research should explore how cognitive biases, cultural norms, social influences and personal beliefs affect consumer responses to sin taxes. Studies could examine the role of present bias (where individuals prioritise short-term gratification over long-term health benefits), risk perception and social acceptability in determining how people react to higher prices on tobacco, alcohol and sugary beverages. Understanding these psychological drivers would help policymakers design more effective tax structures which are complemented by behavioural interventions such as public education campaigns and targeted incentives, to maximise the impact of sin taxes.

The fourth suggestion relates to effectiveness of alternative policy measures. While sin taxes are widely used as a fiscal tool for behaviour modification, there is still a need to compare their effectiveness with alternative public health interventions. Future research should investigate how sin taxes perform relative to non-tax measures such as marketing restrictions, mandatory product reformulation, front-of-package labelling, health subsidies and targeted education programmes. Comparing these policy approaches could provide a better understanding of which interventions are most effective under different circumstances and whether a combination of strategies yields the best outcomes. Additionally, research could assess whether alternative regulatory approaches such as banning harmful ingredients or imposing industry penalties might be more effective than relying solely on consumer-driven taxation models as a deterrent.

5.7 Summary

This chapter provided a critical interpretation of the study's findings, revealing that while sin taxes can reduce harmful consumption and contribute to public health and fiscal objectives, their success depends on careful design, enforcement and contextual alignment. The discussion underscored key themes such as behavioural responsiveness, industry adaptation, the absence of revenue earmarking and the unintended consequences of taxation, particularly in low- and middle-income settings like South Africa. The chapter also clarified the study's contribution to knowledge through its thematic synthesis, contextual grounding and relevance to equity and governance debates. Acknowledging its methodological and data limitations, the chapter offered targeted policy recommendations and outlined future research priorities, including the need for longitudinal impact assessments, psychological insights and comparative evaluations of alternative public health measures. Together, these insights strengthen the case for more integrated, transparent and adaptive sin tax strategies that can effectively balance health promotion with economic and social equity.

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Appendices

a. Ethical Clearance Letter



28 August 2024

Mr Nqobani Mzizi (222127480)
School Of Acc Economics&Fin
Westville

Dear Mr Nqobani Mzizi,

Original application number: 00019217

Project title: Examining the effectiveness of sin taxes on unwanted social behaviours

Exemption from Ethics Review

In response to your application received on 13 June 2024, your school has indicated that the protocol has been granted EXEMPTION FROM ETHICS REVIEW.

Any alteration/s to the exempted research protocol, e.g., Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through an amendment/modification prior to its implementation. The original exemption number must be cited.

For any changes that could result in potential risk, an ethics application including the proposed amendments must be submitted to the relevant UKZN Research Ethics Committee. The original exemption number must be cited.

In case you have further queries, please quote the above reference number.

PLEASE NOTE:

Research data should be securely stored in the discipline/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours sincerely,



Prof Claire Lauren Vermaak
Academic Leader Research
School Of Acc Economics&Fin

UKZN Research Ethics Office
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Website: <http://research.ukzn.ac.za/Research-Ethics/>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

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b. Editors Report Letter



06 February 2025

DECLARATION OF PROFESSIONAL EDIT

I declare that I have edited and proofread an M. Acc (Taxation) Dissertation entitled: **EXAMINING THE IMPACT OF SIN TAXES ON UNWANTED SOCIAL BEHAVIOURS: A SYSTEMATIC LITERATURE REVIEW** by N Mzizi (Stu. No: 222127480).

My involvement was restricted to language editing: contextual spelling, grammar, punctuation, unclear antecedent, wordiness, vocabulary enhancement, sentence structure and style, proofreading, sentence completeness, sentence rewriting, consistency, referencing style, editing of headings and captions. I did not do structural re-writing of the content. Kindly note that the manuscript was not formatted as per agreement with the client.

No responsibility is taken for any occurrences of plagiarism, which may not be obvious to the editor. The client is responsible for ensuring that all sources are listed in the reference list/bibliography. The editor is not accountable for any changes made to this document by the author or any other party subsequent to my edit. The client is responsible for the quality and accuracy of the final submission/publication.

Sincerely,



PhD Communication [Candidate]

MA Communication Science [Cum Laude]


BA Honours Communication Science

BA Humanities



Pholile Zengele
Associate Member

Membership number: ZEN001
Membership year: March 2024 to February 2025


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c. TurnItIn Report

1. Examining the Impact of Sin Taxes on Unwanted Social Behaviours a Systematic Literature Review - N Mzizi - 2.docx

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