

South Africa's Sugar Tax System: A Taxation Perspective

by

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LIST OF ABBREVIATIONS

ACCA	Association of Certified Chartered Accountants
AICPA	American Institute of Certified Public Accountants
BMI	Body mass index
EU	European Union
EUR	Euro
FAQ	Frequently asked questions
HCC	Healthy Caribbean Coalition
HMRC	Her Majesty's Revenue & Customs
HUF	Hungarian Forint
ICAEW	Institute of Chartered Accountants in England and Wales
IEP	Irish pound
ITEP	Institute on Taxation and Economic Policy
MRA	Mauritius Revenue Authority
MUR	Mauritian rupee
NCD	Non-communicable disease
NOK	Norwegian Krone
OECD	Organisation for Economic Co-operation and Development
SARS	South African Revenue Service
SSB	Sugar-sweetened beverage
UK	United Kingdom
USA	United States of America
USD	United States dollar
VAT	Value-added tax
WHO	World Health Organization

ABSTRACT

South Africa's Sugar Tax System: A Taxation Perspective

by Marese Lombard

Obesity is a growing epidemic of our time and sugar is considered to be one of the main culprits. Various governments have implemented a sugar tax system as a way to discourage sugar consumption to address the obesity problem. There is concern, however, around the fact that yet another burden in the form of an excise tax has been introduced without sufficient evidence regarding the sustainability of a sugar tax system. If a tax system is not regarded as a good tax system, it is likely that it will be short-lived. If this is the case, the obesity problem has not been addressed appropriately.

This study is concerned with the use of legislation, particularly a sugar tax system, as a way to address obesity in South Africa. The objective of this study is to analyse whether a sugar tax system is considered a good tax system. It will be of no use to introduce yet another tax system without first establishing whether the tax system meets the minimum standards of a good tax system, yet it is acknowledged that governments should intervene. Obesity is not only a South African problem but has been classified as a global epidemic by the World Health Organization (WHO, 2013). If no action is taken, millions of people will suffer from serious health disorders related or attributed to obesity. This non-communicable disease (NCD) has not only led to increased medical costs for employers but also a decrease in the productivity of employees. It is also an epidemic that is linked to a very rapid increase in chronic diseases that will certainly have a growing negative impact on the economies of countries, South Africa included, if not addressed urgently. Since the combined prevalence of overweight and obesity is estimated at a staggering 85% amongst South Africans, this is certainly a point of concern (Cois & Day, 2015).

A comprehensive study of literature on the principles of a good tax system is performed in this study. The study adopts a legal doctrinal research approach. The tax principles are ultimately adapted in respect of the key elements of a sugar tax system to use as a conceptual framework against which the South African sugar tax system is measured. The South African sugar tax system is found not to be a good tax system, with many areas of improvement identified.

Key words: sugar tax, sugar-sweetened beverages, obesity/overweight, excise taxes

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DECLARATION

I declare that the dissertation hereby submitted for the qualification Master's in Taxation at the University of the Free State is my own independent work and that I have not previously submitted the same work for a qualification at/in another university/faculty.

Marese Lombard

31 July 2018

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CHAPTER 1:

INTRODUCTION AND BACKGROUND

1.1 BACKGROUND AND MOTIVATION

Obesity is increasing at an alarming rate in South Africa and has reached epidemic proportions, both among children and adolescents (Van der Merwe, 2012:289). Among the South African youth, 19,7% of school learners are overweight, with significantly more female learners (27,8%) than male learners (11,2%) being overweight. Studies show that there is a direct link between obesity and the development of chronic non-communicable diseases (NCDs) such as cardiovascular problems, type 2 diabetes, and cancer (Webber *et al.*, 2012:1). Sturm, An, Maroba and Patel (2013:843) estimated that for the age group between 54 and 69 years of age in South Africa, moderate obesity (a body mass index [BMI]¹ of 25 or more) generally causes an increase in medical expenditure by 21%. Severe obesity (a BMI of 30 or more) generally results in a 51% increase in medical expenditure. The increase in percentages due to moderate and severe obesity are higher than in younger age groups, but the problem lies in future medical costs. This means that when the younger age groups reach the ages of 54 to 69 (middle age), chronic conditions caused by obesity will have manifested and will cause an increase in medical costs (Sturm *et al.*, 2013:843; Stacey, Tugendhaft & Hofman, 2017:529). It is also concerning to note that 27% of all deaths in South Africa are attributable to NCDs, which is high when compared to the range of 13% to 29% globally (South Africa: National Department of Health, 2013:21). It is submitted that an intervention is required to address the obesity problem in South Africa.

One of the interventions suggested by the World Health Organization (WHO) to address obesity, in its Global Action Plan for the Prevention and Control of NCDs (2013), is the implementation of a sugar tax. The intervention in the form of a sugar tax has the objective to decrease consumers' sugar intake (WHO, 2013:32; WHO, 2015b). Decreased sugar intake is expected to contribute to the prevention of obesity and improve consumers' health (WHO, 2015b). Stacey *et al.* (2017:529) found that there is a close correlation between the growing

¹ The establishment of obesity figures is done by referring to a person's BMI and the global obesity figures are determined on an annual basis by the WHO (WHO, 2015b). A BMI of 25 or more is considered overweight, whereas a BMI of 30 or more is considered obese (WHO, 2015b).

obesity epidemic and the consumption of sugar-sweetened beverages² (SSBs) in South Africa. It appears that a sugar tax may help to prevent the prevalence of obesity in South Africa. As such, the South African government introduced a sugar tax in the form of an excise tax on SSBs from 01 April 2018 (Ismail, 2016; South Africa: Department of National Treasury, 2016b:16). The announcement of the introduction of a sugar tax in South Africa was followed by conflicting reactions, with health organisations being optimistic while taxpayers feel less optimistic (Green, 2018; Nhlapo, 2018).

Taxpayers are generally not optimistic about the introduction of a new tax and therefore some governments publicly promote the introduction of a sugar tax as being in the public health's best interest (De Garcia, 2011). This is done in order to gain the public's support for the implementation of a sugar tax by portraying it as a good tax. While the public is being convinced that a sugar tax is in their health's best interest, most governments actually introduce new excise taxes in order to generate a new source of income rather than for health concerns (Williams, 2009:6; De Garcia, 2011; Studdert, Flanders & Mello, 2015). Williams (2009:9) stated that governments are increasingly relying on indirect taxes, such as excise taxes, as a source of income because indirect taxes are less visible to those who bear the burden thereof and can therefore yield more income than other taxes. Taxpayers are also not likely to criticise the introduction of a sugar tax if the tax is perceived as doing good. Although the sugar tax is generally perceived as being in the public health's best interest, there is uncertainty about whether a sugar tax is in fact a good tax system (Studdert *et al.*, 2015:6).

The uncertainty regarding whether a sugar tax is a good tax to impose stems from various studies that found sugar taxes to be regressive; in other words, the burden of the sugar tax falls mainly on the poor (Williams, 2009:9; Snowdon, 2015b). Callahan (2013) also questioned the fairness of a sugar tax when he publicly stated that all excise taxes are poor public policy. Not only is there concern regarding the appropriateness of a sugar tax, Slemrod (1990:176) also claimed that a poor tax system is not sustainable in the long run. Given the uncertainty regarding whether a sugar tax is a good tax, there is a need to evaluate the sugar tax system in order to determine if it is a good tax. It is evident that it is important to assess the sugar tax as a policy-making tool.

² A beverage is any type of drink except water (Oxford Dictionaries, 2015:130).

In order to determine whether a sugar tax is a good tax and if it serves as an adequate policy-making tool, it must be evaluated using reliable measures or a conceptual framework (Mendoza, Razin & Tesar, 1994:1). In taxation, there are principles that are used to determine whether a tax system can be regarded as a good tax system. The most common tax principles in the modern-day world were developed by the Organisation for Economic Co-operation and Development (OECD), and include neutrality, efficiency, certainty, simplicity, effectiveness, flexibility, and equity (OECD, 2014:30-31). Many institutions group some of the tax principles together since some of the principles are regarded as interdependent. Although there are many tax principles that have been identified by various institutions over the years, research pertaining to a tax system's adherence thereto is uncertain.

In order to determine whether any research has been conducted regarding the evaluation of an excise tax system or a sugar tax system in terms of the principles of a good tax system, a wide-scope search was performed. Databases that were used in the search included ProQuest, EbscoHost, Emerald, and Google Scholar. The search terms that were used were 'indirect tax', 'excise tax', 'fat tax', 'sugar tax', 'soda tax', 'tax on sugar-sweetened beverages', 'tax principles', 'framework', and 'evaluation', together with the terms 'tax' and 'taxation'. It was determined that while sugar tax specifically has not received much attention, indirect taxes such as excise taxes have been assessed quite widely.

Harberger (1990) and McLure (2002) successfully used the principles of a good tax system to determine whether indirect taxes (value-added tax [VAT] and the taxation of electronic commerce respectively) are good tax systems. Harberger (1990:45) conducted a study to determine whether certain VAT systems are compliant with tax principles. The study found that VAT is mostly compliant with tax principles since it has relatively low costs in comparison with other taxes and is preferred as an income source (Harberger, 1990:45). McLure (2002:115) evaluated whether the taxation of electronic commerce in the United States of America (USA) is compliant with the broad tax principles if it is implemented as a sales tax. The study found that if the taxation of electronic commerce is done by implementing a sales tax, it results in non-compliance with the principles of a good tax system (McLure, 2002:138). Because the studies conducted by Harberger (1990) and McLure (2002) investigated the compliance of indirect tax systems with the principles of a good tax system, they can be used as a guideline to evaluate whether a sugar tax, also an indirect tax, is compliant with the principles of a good tax system.

The principles of a good tax system are therefore used as a tool to measure good tax policy. Theoretically, tax principles must be the starting point of introducing a new tax policy, but in reality the objectives of a tax system are the more practical starting point (American Institute of Certified Public Accountants [AICPA], 2017:14). Tax objectives are the intended outcomes or effects of introducing a tax policy (AICPA, 2017:14). Modern tax does not only have the traditional objective of raising revenue but it is a multi-edged tool that can also be used to influence social and economic outcomes (Accounting Notes.net, n.d.). The fact that modern excise taxes have multiple objectives increases the likelihood that all principles of a good tax system will not be adhered to, since it must achieve multiple outcomes simultaneously. Thus, it is important to assess a tax system in terms of the tax principles to ensure that it is a good tax system.

Therefore, in order to evaluate an excise tax system, such as the sugar tax system, a conceptual framework, based on the principles of a good tax system, is required. It appears from the search that was performed that there is no existing conceptual framework that can be used to evaluate an excise tax system such as the sugar tax system. Internationally, limited research has been conducted on the compliance of sugar tax systems to the principles of a good tax system, as well as on the compliance of indirect or specific excise tax systems to the principles of a good tax system. Most international studies only focused on the efficiency of a sugar tax system in reducing sugar consumption and consequently obesity (Brownell *et al.*, 2009; Powell & Chaloupka, 2009; Capacci *et al.*, 2012; Escobar, Veerman, Tollman, Bertram & Hofman, 2013; Niebylski, Redburn, Duhaney & Campbell, 2014; Basu & Madsen, 2017).

From a South African perspective, the only study that was conducted with regard to tax principles was a qualitative study by Du Preez (2015). Du Preez (2015:191) reconstructed modern principles of a good tax system within a South African context. There exists, however, a need in the field of taxation to adapt the principles of a good tax system into a conceptual framework against which an excise tax system, like the sugar tax system, can be evaluated. To the author's knowledge, no study in South Africa has evaluated whether a South African excise tax system complies with the principles of a good tax system.

The only studies on the sugar tax system in South Africa were conducted by Storom (2012), Talbot (2012), and Manyema *et al.* (2014). All the studies focused on changing consumer behaviour, with no cognisance of the compliance of the sugar tax with good tax principles. Talbot (2012:1281) considered, by conducting a literature study, whether a fat tax should be

implemented in South Africa to address the obesity problem. The study considered consumers' behavioural changes after the implementation of fat taxes. Talbot (2012) did not evaluate whether such a tax is a good tax. In a more recent study in South Africa, Storom (2012) conducted a survey in South Africa to determine whether sugar tax will influence consumer behaviour. His study was based on the assumption that price was the only determinant in consumer behaviour. He found that consumers would opt for a healthier option like water if the sugar tax is introduced. Manyema *et al.* (2012) used a mathematical simulation model to establish whether a 20% tax on SSBs would indeed lower the consumption levels. The study found that a 20% sugar tax will decrease energy consumption by 36 kilojoules per day. Neither of the studies considered whether a sugar tax system is a good tax system.

If a newly implemented tax system, such as the sugar tax system, is not a good tax system, it is likely to fail (Slemrod, 1990:176). It is therefore necessary to understand the negative side-effects and use a conceptual framework to evaluate a tax system based on its effects on welfare, distribution, and efficiency before introducing a new tax (Mirrlees, 2011:33).

1.2 PROBLEM STATEMENT

Evidence in South Africa suggests that people would reduce their sugar consumption if a sugar tax is implemented. This is based on the stated preferences of consumers in consumer behaviour studies. The problem, for the purpose of this study, is that the sugar tax system has not been assessed in terms of the principles of a good tax system. Thus, it is not clear whether this new tax system adheres to the principles of a good tax system from a statutory perspective. Literature shows that the failure to adhere to the principles of a good tax system leads to the failure of the tax system. A failure of the sugar tax system will mean that the actual objective of fighting the obesity problem through discouraging sugar consumption is not reached.

1.3 OBJECTIVE OF THE STUDY

The main objective of this study is to determine whether the South African sugar tax system can be considered a good tax system in terms of the recognised principles of a good tax system.

1.4 RESEARCH QUESTIONS

In order to evaluate whether the sugar tax system that was introduced in South Africa complies with the principles of a good tax system, it is necessary to ask the following questions:

1. What are the recognised measures that can be used to evaluate whether the sugar tax system is a good tax system?
2. How can the measures of a good sugar tax system be used to develop a conceptual framework against which a sugar tax system can be evaluated?
3. To what extent does the South African sugar tax system meet the requirements of this conceptual framework of a good sugar tax system?
4. If the South African sugar tax system does not qualify as a good tax system, what would a good sugar tax system for South Africa entail?

1.5 RESEARCH OBJECTIVES

The sub-objectives required to answer the research questions and reach the main objective are as follows:

1. Identify the principles of a good tax system against which any sugar tax system can be evaluated.
2. Perform a comparative analysis of sugar tax systems that have already been introduced in various countries, and compare the designs of the various sugar tax systems internationally in order to determine the key elements underlying international sugar tax systems.
3. Determine how the principles of a good sugar tax system impact on the key elements of the sugar tax system in order to develop the conceptual framework against which any sugar tax system can be evaluated.
4. Evaluate the South African sugar tax system against the conceptual framework of a good sugar tax system.
5. Recommend changes to the South African sugar tax system in respect of those key elements that do not comply with the principles of a good tax system in order to improve the South African sugar tax system.

1.6 LIMITATIONS

Taxation consists of statutory and economic influences, such as the elasticity of demand of taxed products. This study's primary focus is on statutory incidence; however, some reference and consideration with regard to the economic incidence are made to illustrate the link between

the two incidences. The comparative analysis of international tax systems only includes countries whose information is easily accessible and not restricted due to a lack of the availability of infrastructure and resources. The data collected, to establish modern principles of taxation against which an excise tax system can be evaluated, rely on the research of the authors of the collected sources. There is no certainty regarding any assumptions made by the authors of the various sources. This study only uses a sugar tax on SSBs in its development of a conceptual framework for the evaluation of a sugar tax. Other types of health taxes are only discussed briefly.

1.7 ASSUMPTIONS

For the purposes of this study, it is assumed that the behavioural patterns of consumers in other countries are not materially different from consumers in South Africa. It is also assumed that sugar tax systems are introduced globally with the objective of decreasing sugar consumption in the form of SSBs, following the WHO's recommendation of the use of a sugar tax system.

1.8 STRUCTURE OF THE STUDY

Chapter 1 forms the introduction and motivation for investigating a sugar tax system.

In Chapter 2, modern principles of a good tax system are identified and adapted in order to reconstruct the principles to apply to an excise tax system, specifically a sugar tax system.

In Chapter 3, a comparative analysis of countries with an existing sugar tax system is performed in order to identify the key design elements of the various sugar tax systems. Once the key elements of a sugar tax system are established, the impact of the principles of a good tax system, as identified in Chapter 2, on the key elements of a general sugar tax system will then be discussed. The impact of the relevant principles of a good tax system on the key elements form the conceptual framework against which any sugar tax system can be evaluated. The conceptual framework will ultimately be used to evaluate South Africa's sugar tax system.

In Chapter 4, the South African sugar tax system is evaluated against the conceptual framework of a good sugar tax that was established in Chapter 3.

In Chapter 5, the findings of the evaluation in Chapter 4 are used to make recommendations in respect of the sugar tax system in South Africa.

1.9 RESEARCH DESIGN AND METHODS

Before the design and methods can be discussed, it must first be established what research entails. Collis and Hussey (2003:2) defined research as a systematic, thorough, and rigorous process of increasing one's knowledge through investigation. Research has the objectives of investigating an existing problem, generating knowledge about it, and providing solutions thereto (Collis & Hussey, 2003:2). The word 'research' is used in different contexts and has different meanings (Rajasekar, Philominathan & Chinnathambi, 2013:2). Rajasekar *et al.* (2013:2) defined research as a logical and systematic search for new and useful information on a particular topic. Rajasekar *et al.* (2013) further described research as a tool that seeks predictions of events, explanations, relationships, and theories. Research must be an active process that is performed diligently and systematically in order to explore facts or theories (Rajasekar *et al.*, 2013:2). Research is therefore performed in order to refine the knowledge in various disciplines.

Research methodology, on the other hand, is the empirical study of a phenomenon by using various approaches in order to collect reliable data (Saunders, Lewis & Thornhill, 2012). A phenomenon is described as the understanding of something through the deconstruction of different elements (Terre Blanche & Durrheim, 2004). By deconstructing different elements of a phenomenon, individuals use self-interpretation to construct reality through language. A system can therefore be constructed through language by understanding the relationship between objects and practices (Terre Blanche & Durrheim, 2004). For the purposes of this study, the phenomenon to be researched is the emergence of sugar tax systems in modern society and whether sugar tax systems are good tax systems. This study reconstructs modern principles of taxation applicable to an excise tax system in order to evaluate a sugar tax system. In order to determine what the modern principles of taxation are, a historical review of tax principles will be performed. Once the research methodology is established, the research design must be planned.

Research design contains multiple steps in the collection, analysis, interpretation, and reporting of data collected during the research process. The research design is the plan of how a study is conducted and can be single- or multi-method. The design can also be a qualitative or quantitative study (Mouton, 2001; Creswell, 2002). Research design indicates the various approaches to be used in solving a research problem, sources and information related to the

problem, the time frame, and the cost budget (Rajasekar *et al.*, 2013:22). In order to conduct research, research methods must be used. Quantitative and qualitative research methods can be used to conduct research. Qualitative research entails data that are not in the form of numbers (Punch, 1998:4). It is a research approach that requires multiple methods and which relies heavily on the interpretation of data (Denzin & Lincoln, 1994:2). Qualitative research seeks to understand social realities and therefore requires close researcher involvement (McLeod, 2017). Because the researcher must be actively involved in the research, qualitative research has the advantage of allowing the researcher to identify issues that are often unnoticed by scientific inquiries (McLeod, 2017). Quantitative research, on the other hand, uses numerical data in order to rank or measure units for research results. Quantitative research is normally conducted in order to support or reject a theory (McLeod, 2017). Carr (1994:719) argued that quantitative data collection does not take place in a normal environment, which can lead to distorted results. The advantage of quantitative research is that it can be conducted in order to produce statistical analytics that are scientifically objective and therefore less open to conflicting interpretations (Antonius, 2003:18; Denscombe, 2010:249). Creswell and Plano Clark (2011:144) opined that the most used quantitative research methods include surveys and asking questions, such as face-to-face, mail, telephone, or Internet interviews. The most used qualitative methods, according to Creswell and Plano Clark (2011:145), are case studies and action research. This study is a qualitative study as it interprets findings of various studies or publications in order to establish a framework against which excise tax systems, specifically a sugar tax system, can be evaluated.

For this specific qualitative study to be conducted, tax legislation of various countries are investigated, which is classified as legal research. An interpretative research approach is adopted for the present research, as it seeks to understand, describe, and criticise the excise tax systems already implemented by other countries (Babbie & Mouton, 2004:430). McConville and Hong Chui (2007) divided legal research into doctrinal and non-doctrinal research. Non-doctrinal research can be qualitative or quantitative, while doctrinal research is qualitative since it does not involve statistical analysis of data. Both types of research may overlap. There is also a third format of legal research, which consists of doctrinal, non-doctrinal, or a combination of both performed using a comparative legal method (McConville & Hong Chui, 2007:3).

This study is a purely qualitative comparative study and the research methodology applied can be described as doctrinal research methodology. The doctrinal research-established methodology provides an orderly exposition of the rules directing a particular legal category

(in the present case, the legal rules relating to excise tax systems), analyses the interactions between the rules, explains areas of complexity, and is entirely based on documentary data (McKerchar, 2014:18). The doctrinal research methodology will be applied when performing the comparative analysis of international sugar tax systems in Chapter 3.

With regard to the establishment of modern tax principles to be used as a framework against which an excise tax system can be evaluated, a literature review will be conducted, used in combination with chain-of-referral or snowball sampling, in order to identify publications regarding the principles of a good tax system in Chapter 2. In order to research excise tax systems qualitatively, a comparative literature review will be conducted. Robinson and Reed (1998:58) defined a literature review as ‘a systematic search of published work to find out what is already known about the intended research topic’. A literature review serves many important purposes, including establishing the need for the research, broadening the horizons of the researcher, and preventing the researcher from conducting research that already exists. A literature review is therefore conducted to ensure that no duplication of work takes place (Mouton, 2001:87). Mouton (2001:90) stated that a literature review should be fair in the treatment of authors, well organised, and it should not be outdated. Chain-of-referral sampling will be used while conducting the literature review. Chain-of-referral sampling is a qualitative method that uses referrals to expand the study sample (Biernacki & Waldorf, 1981:141). Chain-of-referral sampling is utilised in order to establish a sample from a hard-to-reach or hidden population by following social links to detect other resources of the target population (Bagheri & Sadaati, 2015:1). Sydor (2013:33) stated that it is hard to define a hidden or hard-to-reach population in literature and that these two terms are usually used as synonyms. Some researchers rather refer to hidden populations as elusive populations or low-visibility populations (Faugier & Sargeant, 1997:792; Fielding, 2004:98; Verma, 2015). Various institutions and individuals have attempted to establish tax principles over the years; resulting in an over-supply of tax principles. The chain-of-referral sampling method was used to compile a collection of tax principles. References made in the most prominent publications chosen were used to broaden the search for tax principles. The most prominent and repetitive tax principles contained in more than 30% of the publications that were identified using the chain-of-referral sampling method were then used as the starting point in establishing the framework of tax principles applicable to an excise tax system.

The literature review for this study is conducted to provide information not only relating to the general background and context of the study, but also to establish whether the sugar tax systems comply with the principles of a good tax system worldwide. The international literature review focuses on the sugar tax systems implemented globally. Publications include policies and guidelines on the topic. From the literature review, information will be collected concerning the compliance with tax principles and the effects after the implementation of sugar tax systems. The data collection is therefore performed by conducting a literature review of tax principles and international sugar tax systems.

1.10 DATA-COLLECTION STRATEGY

The research design consists of a qualitative literature review. Data on tax principles and international sugar tax system were collected. Table 1 summarises the research process.

Table 1: The research process

Research process elements	Method
Research design	Qualitative design
Selection process	Searches on databases using various search terms
Data collection	Literature study
Data analysis	Critical analysis of content
Ethical considerations	Avoidance of plagiarism

A systematic search was conducted for the literature review of tax principles and international sugar tax systems. This approach was utilised in order to determine which tax principles were established throughout the years by prominent institutions or authors, as well as how international sugar tax systems work and how they are designed. Databases used to collect data included PubMed, Web of Science, EBSCOhost, and ProQuest. The search was conducted using the following words, as well as the relevant country (*indicates a truncation of the work to includes all forms of that word): ((sugar OR sin OR fat) AND (tax* [Title/Abstract] OR levy [Title/Abstract] OR excise* [Title/Abstract]) AND (policy*) AND (country*) AND (principles* OR canon*). A search for grey literature was also conducted by searching resources such as Google, the WHO website, and the National Bureau of Economic Research (NBER) database.

Data collected were included in this study if they established any tax principles or if they researched the sugar tax policy of any country, the design of the sugar tax policy, suggested outcomes of the sugar tax policy, and the results of the sugar tax policy after implementation. The studies' reference lists were also examined by using the chain-of-referral research method in order to identify additional resources.

1.11 QUALITATIVE RIGOUR

In order for qualitative research to adhere to the concept of trustworthiness, a researcher must show that the research is trustworthy by adhering to the following criteria: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985; Babbie & Mouton, 2004). Credibility concerns the compatibility of the constructed realities of the participants and what is attributed to them. Credibility can be enhanced by applying different sources and methods (Babbie & Mouton, 2004). Transferability requires that the results from research should be described in detail in order to establish a framework that is to be used to evaluate new data for meaningful comparison (Marschan-Piekkari & Welch, 2004). Transferability is also promoted when raw data are used more often than not in order to support interpretations made by a researcher (Marschan-Piekkari & Welch, 2004). Dependability can also be interpreted as consistency and must be adhered to in order to achieve credibility. Dependability also requires the detailed descriptions of the process that developed from the contextual analysis (Terre Blanche & Durrheim, 2004). Confirmability is the qualitative criterion that research findings should be derived from the research itself and that it should be possible to use the findings in comparison with other studies or to contradict other studies (Babbie & Mouton, 2004; De Vos, Strydom, Fouché & Delpont, 2005). In this study, the researcher adhered to the criteria of credibility, transferability, dependability, and confirmability by validating the data collected continuously for bias, neglect or lack of precision, describing the processes followed in detail, and using raw data as often as possible. The researcher also critically questioned the procedures followed and interpreted the findings theoretically (Henning, Van Rensburg & Smit, 2004).

1.12 ETHICAL CONSIDERATIONS

This study was submitted for ethical clearance. No ethical issues were identified regarding the research conducted. This study received ethical clearance from the Ethics Committee of the Faculty of Economic and Management Sciences at the University of the Free State.

1.13 CONCLUSION

The rationale discussed in this chapter forms the basis of this study. From the research conducted, it is clear that there is a need to establish if a sugar tax system is a good tax system. In the next chapter the most prominent and applicable modern principles of a good tax system are identified in order to establish the principles against which a sugar tax system can be evaluated. The principles form the basis of the conceptual framework to be used for the evaluation of a sugar tax system.

CHAPTER 2:

MODERN TAX PRINCIPLES CONSIDERED IN RESPECT OF A SUGAR TAX SYSTEM

2.1 INTRODUCTION

The previous chapter discussed the basis of this study of the South African sugar tax system. In this chapter, modern tax principles are identified from a review of past tax publications. The publications were analysed in order to determine the most applicable tax principles of a good tax system. The principles identified during this process are then discussed in detail and considered in respect of a sugar tax system, which will be used in the development of a conceptual framework to evaluate a sugar tax system.

Adam Smith's four principles of taxation is the starting point of the literature review, after which the search for additional principles is conducted. All the principles are then adapted to establish the tax principles against which a sugar tax system can be measured.

2.2 TAX PRINCIPLES: THE DEFINITION

In order to reconstruct tax principles for the purpose of a sugar tax system, which is an excise tax system, one must first determine what a principle is. According to *Oxford Dictionaries* (2015:1182), a principle is a 'fundamental truth or proposition that serves as the foundation for a system of belief or behaviour or for a chain of reasoning'. To support this definition, the *Collins Dictionary* (2017b) defines a principle as 'a fundamental or general truth, the essence of something, a source or origin'. Therefore, for the purposes of this study, a tax principle is the foundation of something on which a tax system is built. The tax principles identified in this chapter are used as the basis to develop the conceptual framework against which the sugar tax system will be evaluated.

Although tax principles form the foundation on which a tax system is built, Alley and Bentley (2005:586) pointed out that tax principles are only guidelines when designing tax policy and taxpayers therefore have no enforceable right to demand that principles are adhered to. Tax principles are considered to be the values underlying the tax system, and the principles are embedded within the perceived purposes of taxation (Alley & Bentley, 2005:582). It is

therefore important that tax principles are taken into consideration when contemplating how a tax will achieve a certain outcome or purpose, such as decreasing the consumption of sugar.

Various tax principles have been established over the years and it is necessary to adapt and reconstruct them for modern times (Alley & Bentley, 2005:580). In order to reconstruct principles of taxation, Du Preez (2015:9) stated that there are certain guidelines that must be followed. The starting point of reconstructing tax principles should be the 'study of the history of a phenomenon or field of knowledge, as ideas and practices can only be identified as the basis for guiding principles by analysing and understanding the history of tax policies and the practices that shaped it' (Du Preez, 2015:38). Therefore, the history of tax principles must be explored in order to understand why it was developed so that it can shed light on the purpose thereof.

2.3 THE HISTORY OF TAX PRINCIPLES

Confucius developed the first known tax guidelines in 500 BCE. He taxed citizens by following the guideline of taking only what was needed and not what was wanted (Adams, 2001:17). The guideline of taking only what was needed was based on the principle of mutual respect. Adam Smith ([1776] 2000) later attempted to formulate principles of taxation, which came to be known as the four canons of taxation:

- Contributions of taxation in support of the government should be made in proportion to ability (equity and fairness).
- Taxpayers should be certain what amount ought to be paid; tax should not be arbitrary (certainty).
- Tax should be levied at a time or in a manner that is convenient for the taxpayer (convenience of payment).
- Taxes should be contrived as both to take out and to keep out of the pockets of the taxpayers as little as possible, over and above what it brings into the public treasury of the state (economy in collection).

Bandelj and Sowers (2010:27) were of the opinion that, when Adam Smith wrote his seminal work, *An inquiry into the nature and causes of the wealth of nations* in 1776, a starting point was formulated for the development of a tax system. Because this study has the objective of

reconstructing tax principles in order to evaluate a sugar tax system, the four principles identified by Smith ([1776] 2000) are therefore the starting point for this study in identifying tax principles applicable to excise taxes, specifically sugar taxes.

2.4 COMPILATION OF THE MOST POPULAR TAX PRINCIPLES

Various institutions and individuals have attempted to establish tax principles over the years, which resulted in various perspectives (Stamp, 1921; Carter [Report], 1966; Asprey & Parsons [‘Asprey Review’], 1975; Meade [Report], 1978; O’Brien [Report], 1982; Alley & Bentley, 2005). The Davis Tax Committee (2016:5) of South Africa stated that there is no universal theoretical framework for the development of a tax system. Therefore, in order to establish a theoretical conceptual framework against which a tax system can be evaluated, the most common tax principles that have been established in the past by various institutions and individuals are identified and discussed. In this section, a literature review was conducted in which the chain-of-referral research method was used to broaden the search for tax principles. Commonly established tax principles that were identified with the chain-of-referral research method are compared and used as the starting point in establishing the most common tax principles. The principles identified form the conceptual framework against which a sugar tax system can be evaluated. Each of these principles are then discussed in detail.

In order to use the chain-of-referral research method, the newest available material was used to identify and broaden the search for older tax principles. The newest available reference point in South Africa is the Davis Tax Committee (2016), which published a report on macro analysis. The Davis Tax Committee (2016:8) stated that the evolution of tax has transformed tax policy from being a mechanical and technical exercise to one that is inherently a politically and ideologically challenged mechanism. Tax policy is difficult to design because there are multiple perspectives on tax, which implies that the attitudes of the different perspective groups vary materially (Gentry & Ladd, 1994:747). Tax is viewed by some as a coercive mechanism to showcase the state’s predatory power. Others view tax as a way to redistribute wealth in a manner that will help with economic growth and social solidarity (Davis Tax Committee, 2016). The Davis Tax Committee’s (2016) report aimed to identify modern tax principles that are applicable to the South African environment.

The Davis Tax Committee (2016:14) identified the following tax principles:

- Equity;
- Simplicity;
- Efficiency;
- Transparency and certainty; and
- Tax buoyancy.

Although the tax principles are all viewed as equally important, it is sometimes inevitable that some principles must be sacrificed in order to achieve multiple objectives of a tax system. According to the Davis Tax Committee (2016:113), the objectives of most tax systems are the following:

- Raising of sufficient revenue to fund government expenditure;
- The redistribution of tax resources to achieve certain objectives, including social objectives;
- Correcting market failures;
- Using taxes to achieve certain economic policy objectives such as economic growth;
- Altering taxpayers' behaviour by encouraging or discouraging certain actions; and
- Assisting with international competitiveness, although a tax system should not be used for this without ignoring other, more important objectives.

The Davis Tax Committee's (2016) report was used as the starting point for the chain-of-referral method in the search to identify more tax principles, in addition to the principles identified by Adam Smith ([1776] 2000), that can be used to evaluate a sugar tax system. The chain-of-referral research method was used to compile Table 2, which contains the tax principles that were established over the years by prominent publications or institutions. The tax principles were compared in order to determine which principles are the most universally applicable. Tax principles that were mentioned in more than five publications, which equals more than 30% of the publications included in the search, were regarded as universal and were therefore used to form the conceptual framework for the evaluation of a sugar tax system.

Table 2: Comparison of tax principles

Institution	Year	According to ability	Savings and contributions not taxed	Taxpayer not own assessor	Equity	Certainty	Simplicity	Neutrality	Transparency and Accountability	Flexibility	Fairness	Efficiency	Economic growth	Stability	Incentives	Distributional effect	International Competitiveness	Transitional problems	Low administration costs	Certainty	Convenience to pay	Effectiveness	Easy to collect	Properly targeted	Consultation	Regular review	Statutory	Competitive	Information security	Minimisation of tax gap	Buoyancy
Adam Smith	1776				✓	✓															✓		✓								
Newmarch Lectures	1919	✓	✓	✓																											
Carter Report	1966				✓	✓	✓	✓	✓	✓																					
Asprey Review	1975						✓				✓	✓		✓																	
Meade Report	1978						✓			✓		✓		✓	✓	✓	✓	✓													
O'Brian Report	1982				✓		✓					✓							✓												
IFS	1991				✓				✓			✓							✓												
CIPFA	1994				✓				✓		✓									✓	✓										
James and Nobes	1997				✓							✓			✓				✓												
Committee on Fiscal Affairs	1998						✓	✓	✓		✓	✓	✓									✓									
ICAEW	1999					✓																	✓	✓	✓	✓	✓	✓			
AICPA	2001 (updated 2017)				✓		✓	✓	✓		✓	✓	✓						✓	✓	✓				✓				✓	✓	
Alley and Bentley	2005				✓	✓	✓	✓			✓	✓										✓									
President's Advisory Board	2005																							✓							
Henry Review	2010				✓	✓			✓		✓	✓							✓		✓										
Mirrlees Review	2011				✓	✓			✓		✓								✓		✓										
Davis Tax Committee	2016				✓		✓		✓			✓								✓											✓

Source: Compiled by author (Davis Tax Committee, 2016; Mirrlees Review, 2011; Henry Review, 2009; The President's Advisory Panel on Federal Tax Reform, 2005; Alley & Bentley, 2005; American Institute of Certified Public Accountants, 2017; Institute for Chartered Accountants in England and Wales (ICAEW), 1999; Committee on Fiscal Affairs, 1998; James & Nobes, 1997; Jackson, 1994; Ridge & Smith, 1991; O'Brien Report, 1982; Meade Report, 1978; Asprey & Parsons, 1975; Carter Report, 1966; Stamp, 1921)

The following tax principles were regarded as universal and were included in more than 30% of the publications explored, as shown in Table 2, and are therefore used to evaluate a sugar tax system:

- a) Equity;
- b) Simplicity;
- c) Efficiency;
- d) Fairness;
- e) Transparency and accountability;
- f) Certainty; and
- g) Low administrative costs.

Each of the identified principles is discussed in detail in order to elaborate on the meaning of each, including various interpretations thereof. Specific focus is placed on how each of the principles identified is applied in general; after which the principles are adapted to be applied to a sugar tax system. The principles listed above will therefore be adapted to form the basis of the conceptual framework to evaluate a good sugar tax system for the purposes of this study. As previously mentioned, some of the principles are interdependent and are therefore grouped together for discussion purposes.

2.4.1 Equity and fairness

Smith ([1776] 2000) identified equity and fairness as one of the four canons of taxation in his seminal work, *An inquiry into the nature and causes of the wealth of nations*. He grouped the principles of equity and fairness together, since he argued that the one principle is dependent on the other. AICPA (2017:10) also viewed fairness and equity in taxation as dependent principles, meaning the one cannot be achieved without the other, and stated that equity and fairness are achieved when the taxpayer receives benefits for his/her contribution in the long run. The Davis Tax Committee (2016:9) echoed both Smith ([1776] 2000) and AICPA's (2017:10) views, stating that the taxpayer's perception of the fairness of a tax relies on the distribution of the tax burden; in other words, whether it is equitable or not.

Equity has several different meanings. In the context of a tax system, equity, in a conservative manner, specifically refers to a progressive tax system (Salls, 2007; Putnam-Walkerly &

Russel, 2016). A progressive tax system is one in which taxpayers with greater capacity in the form of wealth should bear a greater burden of the tax than taxpayers with little or no form of wealth (Henry Review, 2009:176). In simple terms, this implies that the rich should bear a larger tax burden than the poor. The tax burden not only refers to the monetary burden but also a taxpayer's exposure to the complexity of a tax system and the cost of compliance (Henry Review, 2009:21). The O'Brien Report (1982) stated that it is difficult to achieve equity in a tax system without increasing the level of complexity thereof. On the other hand, if a tax is unnecessarily complicated, it is likely that the disadvantaged group will be unaware of their rights and most likely distort the equity of the system (O'Brien Report, 1982). It is therefore a difficult balance that must be maintained in order to achieve equity.

In order to assist tax policy designers in achieving and maintaining this balance, equity and fairness can further be divided into two principles, namely the benefit principle and the ability-to-pay principle (Smith, [1776] 2000). Therefore, if a tax system complies with either the benefit or ability-to-pay principle, it is likely that the tax system is equitable and fair.

- ***Benefit principle***

Abbasian and Myles (2006:1) stated that the benefit principle is where a person is taxed according to the benefits that person receives from the government of a country. According to Abbasian and Myles (2006:1), the benefit principle assumes that a tax's purpose is similar to that of a price in a private transaction. The theoretical motivation behind the benefit principle can make the implementation thereof difficult. A tax system developed according to the benefit principle is appropriate when the benefits and recipients of government expenditure can easily be identified on an individual basis (Institute on Taxation and Economic Policy [ITEP], 2015:3). The benefit principle is therefore only suitable if the government does not aim to distribute wealth and income in a modified manner; implying that income received from one source should be used to fund expenditure for that specific source and not used for other purposes (Bird, 1976:257). A practical example to explain the working of the benefit principle is if a taxpayer buys fuel, which includes a tax; this tax should be levied in accordance to how many times the taxpayer uses the highway – which is the benefit received by the taxpayer. This principle is, however, not as easily enforced since it is almost impossible to determine a taxpayer's usage of a highway on an individual basis. The most obvious problem with the benefit principle is that it can become regressive, with the heaviest tax burden falling on the

poor (ITEP, 2015:3). That is because the poor taxpayer who buys gasoline pays the same tax as the taxpayer who earns more income (ITEP, 2015:3).

Another interpretation of the benefit principle was established by Burgat and Jeanrenaud (1996), who developed the concept of equal absolute sacrifice of a taxpayer. The equal absolute sacrifice is the utility loss for each taxpayer. The loss of utility is the income of the taxpayer before tax is taken into account less the income of a taxpayer after tax is taken into account (Burgat & Jeanrenaud, 1996:152). The equal absolute sacrifice approach was also supported by Abbasian and Myles (2006). The equal absolute sacrifice approach is not very common since it will only be possible to implement if all taxpayers are assumed to be identical, which is unrealistic (Abbasian & Myles, 2006:12). If taxpayers were identical, the benefit and ability-to-pay principles would have the same outcome, therefore the two approaches of benefit and ability to pay can theoretically be viewed as the same (Musgrave, 1990:120; Abbasian & Myles, 2006:3). It seems that the practical application of the benefit principle is highly unlikely to be implemented in the modern-day world and therefore the ability-to-pay principle might be a more viable principle to implement (Asprey & Parsons, 1975:13).

- ***Ability-to-pay principle***

The Asprey Review (Asprey & Parsons, 1975:15) and Mirrlees (2011:176) chose to measure equity and fairness in terms of the ability-to-pay principle since it was argued that the ability-to-pay principle is more practical to apply than the benefit principle. The ability-to-pay principle sees tax as a sacrifice for which there is no direct service received and determines what the acceptable burden per taxpayer is depending on the taxpayer's wealth (Davis Tax Committee, 2016:9). In order to determine a taxpayer's wealth, a measure must be determined that is universally applicable. Asprey and Parsons (1975:14) argued that a taxpayer's wealth must be determined by measuring the taxpayer's economic wellbeing in monetary terms. Monetary terms is the preferable method to determine economic wellbeing since other factors will be too time-consuming to determine on an individual basis (Asprey & Parsons, 1975:14). Therefore, if the ability-to-pay approach is used, the monetary records of each taxpayer must be readily available in order to ensure the successful implementation of this approach to comply with the principle of equity and fairness.

Obtaining the monetary records of all taxpayers comes with its own challenges. The problem with the ability-to-pay principle is that no individual's monetary records can be confirmed directly; this is unlikely and too costly. Therefore, for the ability-to-pay model to work efficiently, the government must rely on taxpayers' honesty in declaring all sources of income (Mirrlees, 2011:58). The declaration of income by taxpayers would have to happen voluntarily and can become an opportunity for high-earning individuals to understate income in order to avoid taxes. In order for this approach to work, taxpayers should be given a sufficient incentive for declaring all their sources of income and eventually contributing to tax revenue according to their ability (Mirrlees, 2011:68). However, the concept of ability to pay can only be successfully applied if a country is taken into account on its own due to complications in the form of global earnings that arise when cross-country situations are present, which is a very common phenomenon in modern society (Schoen, 2009:72). Although the monetary method of determining an individual taxpayer's ability to pay is a viable option, some scholars disagree with a taxpayer's income being used as a measure of ability to pay.

A taxpayer's income can fluctuate materially from one year to another and can therefore be criticised as a method to determine an individual's wealth (ITEP, 2015:3). Economists agree that a taxpayer's lifetime income will be a better measure than using a taxpayer's annual income, but again the problem is that this amount might be easily distorted due to unpredictable future circumstances or events (ITEP, 2015:3). ITEP (2015:3) argued that consumption might be a better basis to measure a taxpayer's ability to pay than income since the present value of lifetime consumption is equal to the present value of lifetime income (ITEP, 2015:3). Consumption is regarded as the relationship between lifetime savings and lifetime income (Friedman, 1957:3). Given the different arguments for how a taxpayer's wealth should be determined, it is therefore unclear how a taxpayer's ability to pay can be determined.

In addition to the ability-to-pay and the benefit principles, equity and fairness can further be viewed from two perspectives, namely horizontal and vertical equity. ITEP (2015:4) stated that horizontal equity is where taxpayers who find themselves in similar circumstances must pay similar taxes. Vertical equity is achieved where persons of different income groups are taxed according to their income, which is perceived as fair (ITEP, 2015:4).

Although the equity and fairness principle can be viewed from different perspectives, Du Preez (2015:53) claimed that equity and fairness can only be achieved when there is mutual

responsibility and respect between a ruler or government and the people; implying that the concept of taking only what is needed, and not what is wanted, should apply. This point of view can be summarised by claiming that a tax is lawful if it is justified by appropriate expenditure. If this point of view is not adhered to, tax exploitation occurs (Du Preez, 2015:53).

AICPA (2007:3) further recommended that equity and fairness be divided into the following seven categories:

1. *‘Exchange Equity and Fairness* – Over the long run taxpayers receive appropriate value for the taxes they pay.
2. *Process Equity and Fairness* – Taxpayers have a voice in the tax system, are given due process, and are treated with respect by tax administrators.
3. *Horizontal Equity and Fairness* – Similarly situated taxpayers are taxed similarly.
4. *Vertical Equity and Fairness* – Taxes are based on the ability to pay.
5. *Time-related Equity and Fairness* – Taxes are not unduly distorted when income or wealth levels fluctuate over time.
6. *Inter-group Equity and Fairness* – No group of taxpayers is favoured to the detriment of another without good cause.
7. *Compliance Equity and Fairness* – All taxpayers pay what they owe on a timely basis.’

It can be deduced from the research that equity and fairness are achieved when taxpayers pay in accordance with their ability, such as is the case with a progressive tax system, where the tax burden increases as a taxpayer’s wealth increases. The WHO (2017:18) warned that consumption taxes, such as sugar taxes, are usually regressive and should not be regarded as an equitable and fair tool for generating tax revenue. The objective of a consumption tax should therefore rather be to achieve health objectives (WHO, 2017:18).

2.4.1.1 Adaption of general tax principles of a good tax system to be applicable to a sugar tax system: Equity and fairness

It was established that equity and fairness require a progressive tax system. An excise tax, however, is mostly a regressive tax. In order for a sugar tax system to comply with the equity and fairness principle, despite not being progressive, the consumer responses and health

benefits obtained from the implementation of such a tax must outweigh the burden thereof (Meade Report, 1978:12; Mirrlees, 2011:804; WHO, 2017:18).

The idea that a sugar tax's benefit must outweigh its tax burden is supported by the fact that lower-income households purchase more SSBs than higher-income households if it is measured as a percentage of household spending (Finkelstein, Zhen, Nonnemaker & Todd, 2010:2030). Finkelstein *et al.* (2010:2032) found that lower-income households purchased an additional 44 calories more per day in the form of SSBs. If a sugar tax were to decrease lower-income households' consumption with that 44 calories per day, it can lead to a 1,8 kg difference per year for an individual. Finkelstein *et al.*'s (2010) conclusion that obesity rates are higher among lower-income households is consistent with the findings of a study conducted by Lin, Smith, Lee and Hall (2011:334). It can therefore be said that if lower-income households benefit more in terms of health than higher-income households and the health benefit outweighs the burden of the sugar tax, it will be regarded as equitable (Brownell *et al.*, 2009:3; Finkelstein *et al.*, 2010:2033; Sturm *et al.*, 2013; Lin *et al.*, 2011:336, Long *et al.*, 2015:119).

In addition to the fact that the sugar tax system is more beneficial for lower-income households, another justification for the sugar tax system that interferes with the free-market system is that economists support the intervention in the form of an excise tax if there are 'market failures' that result in non-optimal production and consumption (Finkelstein, Ruhm & Kosa, 2005:252; Cawley, 2004:120). With regard to a sugar tax system, there are several market failures that must be addressed. The first and most important market failure to address is that consumers purchase SSBs without realising the long-term health consequences, therefore making a decision using imperfect information (Goettler, Grosse & Sonntag, 2017:7; Kudel, Huang & Ganguly, 2018:9). Aggressive marketing by manufacturers further encourages these decisions. Another market failure that must be addressed is that consumers make decisions without realising the impact it has on others. An example of this is where obesity leads to a less productive work force, which in turns impacts a country's economic growth in a negative way, as well as the public health costs related to obesity (Goettler, Grosse & Sonntag, 2017:7; Kudel, Huang & Ganguly, 2018:9). Market failures tend to negatively affect the poor the most, since it is the poor that rely on public support for diet-related diseases (Brownell *et al.*, 2009:4). Since the poor are affected by these negative consequences the most, they would benefit the most from the tax on SSBs (Brownell & Frieden, 2009:1806). It can therefore be argued that although the poor might bear the biggest tax burden, it is also the poor that will benefit the

most from the implementation of a sugar tax system. This is because significant sugar taxes would generate substantial new revenues for governments, which in turn can be used to finance healthcare for the poor. The revenue raised with the implementation of a sugar tax can also be used to support obesity-prevention efforts, including mass media public education campaigns; subsidies that lower the relative prices of less energy-dense, healthier foods and beverages; and programmes to make safe, free drinking water more widely available (Brownell *et al.*, 2009:6).

Even though the poor might benefit more from the sugar tax than the rich, making it compliant with the principle of equity, equity and fairness are regarded as dependent principles. Therefore, the fairness of a sugar tax must also be considered. The public's opinion can provide some insight as to what the perception of the fairness of the sugar tax is (Thomas-Meyer, Mytton & Adams, 2017:2). The argument of many public institutions and individuals opposing a tax on SSBs is that the targeting of only SSBs is unfair, since all food items containing sugar are not taxed. A sugar tax furthermore intrudes on an individual's personal choices (Thomas-Meyer *et al.*, 2017:8).

Fairness of a sugar tax system can further be evaluated by considering whether the tax system has any incentive for manufacturers that reformulate their recipes and ultimately decrease the sugar content of SSBs. If the manufacturing industry can receive an incentive for reformulating their products, the sugar tax might be considered to be more justified and fair if regarded as a health promotion tax (Ireland: Department of Health, 2016:5). If the manufacturers reformulate their products to reach an acceptable level of sugar content, they can receive an incentive by either paying no tax or by paying a lower tax rate than for higher sugar levels.

To summarise, for a sugar tax to comply with the principle of equity and fairness, firstly, the sugar tax's health benefit must outweigh the financial burden thereof for lower-income households. Secondly, a sugar tax will be regarded as fair if it does not only tax certain food or drinks products but all products containing sugar. Thirdly, the sugar tax must provide an incentive to manufacturers to reformulate their products to contain less sugar.

2.4.2 Simplicity and certainty

The Asprey Review (1975:15), Meade Report (1978:21), Henry Review (2009:17), and Mirrlees Review (2011:601) all emphasise Smith's ([1776] 2000) 'certainty' principle.

The principle of certainty is closely linked to simplicity. The simpler a tax system is, the more likely it is that taxpayers will be certain of the amount to pay and how to pay (Basu, 2007:84; ICAEW, 1999:6). Because the simplicity of a tax system enhances taxpayers' certainty of what to pay, it can be said that revenue collection for tax authorities can be improved if a tax system is simple (Alley & Bentley, 2005:597).

However, it is almost inevitable that tax rules will be complex since tax law should be structured according to tax principles (ICAEW, 1999:6). If the government wants to use a tax system to alter the behaviour of taxpayers, this should be done without changing the principles of tax legislation, which in turn will complicate the tax system even more (ICAEW, 1999:7). It is therefore difficult to design a tax system that is able to reach its objectives and that complies with the principles of a good tax system. This is due to the fact that the simplicity of a tax system might be lost in order to ensure that the tax system is fair to taxpayers (Association of Certified Chartered Accountants [ACCA], 2009a:4). The fact that a tax system has so many requirements that must be met, makes compliance with the principle of simplicity unlikely.

The non-compliance of tax systems with the principle of simplicity is supported by research conducted by the World Bank (2016a), which clearly shows that simplicity is not generally experienced by taxpayers globally. Because it is so difficult to implement a simple tax system since it must achieve multiple objectives as well as comply with tax principles, the European Union prefers that the certainty of tax systems is increased while the tax compliance side of a tax system, which includes the administration thereof, must be simple (Committee on Fiscal Affairs, 1998:3). To increase taxpayers' certainty regarding the working of tax, governments must empower taxpayers with knowledge. This is due to the fact that Gartmeier, Bauer, Gruber and Heid (2008:101) found a link between knowledge and certainty. Once governments ensure that taxpayers are certain of the working of tax, the administration of the tax system must be scrutinised to make it as simple as possible.

In order to simplify the administration of tax returns, technology must be used innovatively. Technology plays big part in the level of complexity of a tax system (ACCA, 2009b:8). Using electronic filing systems can make the administration of taxes much easier for the taxpayer since the software can use and reuse information as many times as needed (ACCA, 2009b:8). Mirrlees (2011:15) warned that although the changing technological environment has made it

easier to administer tax, it has at the same time also made it easier for taxpayers to structure transactions in such a way as to avoid tax.

Other factors that influence the simplicity of the administration side of a tax system are the usability and comprehensibility of information, as well as whether taxpayers must self-assess their tax liability (ACCA, 2009b:6). If taxpayers must self-assess their tax liability, the language used to guide a taxpayer with regard to the administration of the tax should be simple since most taxpayers have no detailed knowledge of the tax system (ACCA, 2009b:6). Also, if a tax system relies on self-assessment, a complex tax system can create ample opportunity for taxpayers to avoid tax by identifying loopholes in the said system (ITEP, 2015:2). Therefore, the structure and comprehensibility of a self-assessed tax system will materially influence taxpayers' perception of simplicity.

Another factor that causes tax systems to be complex is the global economy. For a tax system to be implemented in a global economy, legislation usually must include anti-avoidance measures for it to be sustainable in the global environment (Du Preez, 2015). The implementation of a modern tax system in our global society therefore usually fails to comply with the principle of simplicity (ITEP, 2015:4).

Simplicity is therefore one principle that is highly unlikely to be achieved in the modern-day world. However, modern tax legislation should strive to ensure that, even though the tax itself is not simple, the administration and payment thereof are simple. If the administration and payment are simple, it is also likely to increase the taxpayers' certainty regarding the tax. Certainty is also increased with knowledge, therefore taxpayers must be informed of the working of a tax.

2.4.2.1 Adaption of general tax principles of a good tax system to be applicable to a sugar tax system: Simplicity and certainty

In order to adapt the principle of simplicity and certainty for a sugar tax system, it can be said that governments must ensure that the tax base of the sugar tax is kept as simple as possible. In this way, it is easier for taxpayers to know who is liable for the tax, as well as how much tax should be paid. In addition to the simplification of the tax base, taxpayers must be informed of the working of the sugar tax so that they can be certain as to who is liable for the tax and how

it will be administered. In addition, existing tax infrastructure must be utilised to simplify the administration of the sugar tax (Ireland: Department of Health, 2016:13; South African Revenue Service [SARS], 2018c).

2.4.3 Efficiency and low administration costs

Efficiency is the quality of being able to do a task successfully, without wasting time or energy (*Collins Dictionary*, 2018). Therefore, efficiency from a tax perspective can be seen as two-fold: it must achieve its objective successfully, and it should be done in a manner that does not waste resources. The wastage of resources can be minimised by keeping administration costs low, as well as achieving economy in the collection of taxes (Asprey & Parsons, 1975:16; Henry Review, 2009:19). Administration costs must be kept as low as possible since they are regarded as deadweight costs (Asprey & Parsons, 1975:16; Henry Review, 2009:74). Therefore, the principle of low administration costs, as identified in Section 2.2.3, is regarded as forming part of the efficiency principle.

In order for a tax system to minimise the wastage of resources, the administrative costs of a tax system should be kept as low as possible. Shahroodi (2010:42) suggested that technology should be utilised to minimise administration costs and the tax authority's personnel should be well trained so that they can provide quality services to taxpayers. Not only should governments attempt to minimise administration costs but they should also collect as much tax revenue as possible in order to keep the wastage of resources to a minimum.

To achieve economy in collection, it will be easier to tax large companies rather than small companies since large companies usually already have well-documented processes in place (Slemrod & Yitzhaki, 1996:175). The more documentation, the lower the cost of gathering additional information required by tax authorities. Since large companies already have most documentation in place, it is then easy to verify that all taxes have been collected from these companies (Slemrod & Yitzhaki, 1996:176). However, economy in collection does not only rely on a government's efforts to collect taxes but also relies on the taxpayers' willingness to pay. That is because the collection of tax revenue increases if taxpayers' willingness to pay is high (Davis Tax Committee, 2016:14). In order to promote taxpayers' willingness to pay taxes, taxpayers should know why they are being taxed and how the revenue that is generated by the tax is utilised (Davis Tax Committee, 2016:14). This would imply that taxpayers prefer tax

revenue to be publicly earmarked for specific projects. A tax system can therefore only be efficient in the collection of taxes if the public views the tax system as a good system, as well as one that provides quality public services (Shahroodi, 2010:43).

Another factor that influences the economy in collection of taxes is policy design (Henry Review, 2009:16). A tax policy influences the tax gap. The tax gap is the difference between taxes that are owed by the taxpayer and taxes that are paid voluntarily (AICPA, 2017:13). Therefore, in order to minimise the wastage of resources, tax gaps should be kept as small as possible. However, tax gaps increase when tax can easily be evaded and if a leakage is created with the creation of a black economy³ (Davis Tax Committee, 2016:14). Tax systems should therefore be developed in a way that minimises the tax gap, therefore implying that non-compliance and evasion are minimised (AICPA, 2017:13). Efficiency and low administration costs can therefore be summarised as the ability of the tax system to achieve its goal while simultaneously ensuring low administrative costs, economy in collection by focusing on both the government's side as well as the taxpayer's side, and preventing the tax gap from increasing.

2.4.3.1 Adaption of general tax principles of a good tax system to be applicable to a sugar tax system: Efficiency and low administration costs

In order to adapt this principle for a sugar tax system, it must be determined what factors influence the ability of the sugar tax to decrease sugar consumption, its objective, as well as which factors can assist in minimising the wastage of resources.

From the perspective of administration costs, the introduction of a new excise tax on a specific product, such as the sugar tax, creates increased administrative costs. That is because different products that are taxed at different rates must be reported to the authorities separately (Slemrod & Yitzhaki, 1996:184). Another factor that can raise administrative costs is if a new tax is implemented that covers a wide variety of producers (SARS, 2018c). Because of the higher administration costs associated with a sugar tax, governments should consider utilising existing infrastructure for the administration of a new tax system in an attempt to keep administration costs as low as possible (SARS, 2018c).

³ The black economy consists of the buying, selling, and producing of goods or services that go on without the government being informed, so that people can avoid paying tax on them (*Collins Dictionary*, 2017a).

The second way to minimise the wastage of resources is to minimise the tax gap and achieve economy in collection. It can therefore be said that a sugar tax must ensure that economy in collection of the sugar tax is achieved but it should also prevent the leakage of tax revenue. In order to achieve economy in collection of sugar tax, the public's willingness to pay plays a big role (refer to Section 2.4.3). In order to enhance the public's willingness to pay sugar taxes, taxpayers must be able to see that the sugar tax's revenue is earmarked for specific health-promotion initiatives (Wright, Smith & Hellowell, 2017:12).

With regard to the prevention of leakage of tax revenue, leakage in a sugar tax system can be caused by the substitution effect. The substitution effect refers to a situation where taxpayers substitute taxed products for other products that are not taxed as heavily or are not taxed at all (Slemrod & Yitzhaki, 1996:186; Stewart, Moore, Whiteford & Grafton, 2015). Substitution therefore must be prevented if a sugar tax is to be regarded as efficient. If the substitution effect occurs in a sugar tax system, taxpayers will merely substitute SSBs, which are taxed, with other, equally unhealthy, untaxed products (Escobar *et al.*, 2013:6).⁴ If consumers merely substitute SSBs with other beverages, no health benefit is derived from the implementation of a sugar tax and the tax will ultimately not reach its objective of decreasing sugar consumption. It is therefore important that a sugar tax system be implemented in such a way that the tax base is extensive enough to avoid the substitution effect. The WHO (2017:20) stated that if the tax base is broader and more clearly defined, it will help to prevent the substitution of taxed beverages with other, equally unhealthy beverages. The WHO's (2017:20) statement is supported by the fact that Mauritius has adjusted its tax base to also include pure fruit juices and milk products, after the initial exclusion thereof (Mauritius Revenue Authority [MRA], 2018). These factors all influence consumers' behaviour in reaction to the implementation of a sugar tax.

Consumer behaviour is also influenced by the pass-through percentage of the tax (if it changes the price to the consumer) and the elasticity of demand for the taxed product (Landon & Graff, 2012; Colchero *et al.*, 2015:134; South Africa: Department of National Treasury, 2016a:10; Guerrero-López, Unar-Munguía & Colchero, 2017:187). The pass-through percentage of a tax is the relative increase in price to the consumer in response to the implementation of a tax.

⁴ Cross-price elasticity measures the change in the quantity demanded of one good in reaction to a change in the price of another good (Browning & Browning, 1992).

In a perfectly competitive market with perfectly inelastic demand (i.e. a change in the price of a product does not affect demand), there will be a perfect theoretical pass-through of the tax but it is not likely to be the case (Finkelstein *et al.*, 2013:226). Since a perfectly competitive market with perfectly inelastic demand is highly unlikely, the sugar tax can therefore either be passed through to the consumer by being under-shifted or over-shifted. If a sugar tax is under-shifted, the price of SSBs will increase with a percentage less than the imposed sugar tax. If a sugar tax is over-shifted, the price of SSBs will increase with a higher percentage of that of the imposed sugar tax. Under-shifting of sugar taxes might be done because manufacturers want to keep sales figures unchanged (also known as strategic under-shifting) and in turn this will undermine the potential health benefit of the tax (Cornelsen, Green, Dangour & Smith, 2015:21). Over-shifting is usually observed in products where the market is monopolistic, which is not the case with SSBs since there are hundreds of beverage manufacturers worldwide⁵ (Fullerton & Metcalf, 2002:1819; Food Engineering, 2018). It can therefore be predicted that, theoretically, a sugar tax will be under-shifted if implemented. Thus, if the sugar tax is implemented at too low a rate, it will have a negligible effect on consumer behaviour since it is predicted that the pass-through rate will not be high enough.

Even though theories regarding consumer behaviour are readily available, it is difficult to predict how taxpayers will respond to a change in tax systems (Mankiw, Weinzierl & Yagan, 2009:163). That is because different products have different price elasticities of demand. The price elasticity of demand of SSBs therefore must be determined in order to decide how high the increase in prices of SSBs must be in order to alter consumer behaviour (WHO, 2017:11). For the principles of efficiency and low administration costs, a sugar tax system must therefore be able to decrease sugar consumption by being passed through to consumers while avoiding the substitution effect, it should earmark the tax revenue for health-promotion initiatives, and it should utilise existing tax infrastructure for the administration thereof.

2.4.4 Transparency and accountability

The transparency of a tax system includes multiple factors. One of these factors is the manner in which taxes are collected (Davis Tax Committee, 2016:14). The Davis Tax Committee

⁵ A monopolistic market is where only 'one' (English meaning for the Greek 'mono') company offers its products or services to the public, thereby creating a monopoly; a sole supplying firm where the consumer has no option or choice but to buy the company's services or products. When this occurs, and there is no competition, prices will increase to the detriment of the public (*Business Dictionary*, 2018).

(2016:14) stated that taxes must be collected in a transparent way; implying that the rules and procedures of tax legislation must be transparent and applied consistently. ACCA (2009b:5) indicated that tax policies should be transparent and should not discriminate against taxpayers, unless there is a motivation behind it. If, for example, an excise tax is introduced, the implementation of the tax should be motivated and justified to taxpayers. Although the use of taxation as a social policy is not always properly motivated or justified, the use of taxes to promote social wellbeing is a common practice by most governments and therefore the use of tax as a social policy should be transparent (ACCA, 2009b:5). The transparency of a tax system goes hand in hand with accountability, since a transparent process ensures that all parties involved in the implementation and administration of a tax system can be held accountable (AICPA, 2017:13).

Accountability of taxes to taxpayers requires that the process of tax policies and how they are approved is accessible and visible to taxpayers. When proposed tax reforms are presented to government, it is imperative that the approval process of a new tax reform be transparent. The transparency of the approval process is important to taxpayers and it will assist in the willingness of the taxpayers to pay taxes (Davis Tax Committee, 2016:9). It is therefore important for a government to know what a transparent approval process is considered to be. Tax policies and processes should be open for public comment, which enables broader and well-informed debate by all stakeholders. Accountability and transparency of a tax system therefore improve understanding and respect for the tax system (AICPA, 2017:13). The transparency of a tax process does not only count for the initial approval of the tax, but any amendments to existing tax legislation should also be made after proper consultation with stakeholders. The consultation with stakeholders should be performed in a formal and timely manner to ensure that all consequences are taken into account before the implementation of changes (ICAEW, 1999:10). Although the approval of a tax system or any amendments thereto should be an inclusive and transparent process, tax systems should also be regularly reviewed to ensure that they are still attaining the goal they were developed for. The regular review of the tax system is therefore done to determine whether the tax system is still relevant and justifiable (ICAEW, 1999:10). If a tax system is no longer attaining its goals, it should be scrapped.

Many countries follow a transparent process with the implementation of a new tax system but the consultation process with stakeholders is often viewed as a flawed practice. The process is

viewed as flawed since the proposed policy has, in most cases, already been decided on and therefore the consultation process is mostly done for appearances' sake (ACCA, 2009b:5). In order to ensure that it is not only done for appearances' sake, such a consultation process should include an audit trail that is unambiguous and contains all communication in writing (ACCA, 2009b:5). Governments should therefore ensure that all proposed tax systems are not implemented or amended without following a formal process of consultation with all stakeholders – this will ensure that a tax system is viewed as transparent, which in turn will ensure accountability by all parties involved.

2.4.4.1 Adaption of general tax principles of a good tax system to be applicable to a sugar tax system: Transparency and accountability

From a sugar tax perspective, it must be determined whether governments implement the sugar tax system in a transparent way by following a consultation process with all stakeholders. It must also be determined whether governments have undertaken to review the sugar tax system regularly in order to ensure its relevancy.

2.5 CONCLUSION

The principles of a good tax system were identified in this chapter. After various benchmark publications were discussed, repetitive and similar tax principles were reconciled in order to establish modern tax principles applicable to any tax system. The principles of a good tax system were then adapted to be applicable specifically to a sugar tax system. These principles form the conceptual framework for the purposes of this study and are a) equity and fairness, b) simplicity and certainty, c) efficiency and low administrative costs, and d) transparency and accountability.

It was concluded that for a sugar tax system, the principle of equity and fairness refers to a situation where the health benefit of the lower-income households exceeds the tax burden thereof. The sugar tax should also not only target one type of product, but all products that contain sugar. Governments can also introduce a tax-free threshold with regard to a sugar tax on SSBs to further achieve fairness by providing an incentive to manufacturers to reformulate their products.

For the principle of simplicity and certainty, it was found that a sugar tax system should keep the tax base as simple as possible and use existing tax infrastructure to further simplify the administration of the tax. Taxpayers should also be informed as to the working of the tax, which will make them certain of who is liable for the tax and how it is administered.

Efficiency and low administrative costs of a sugar tax refer to a situation where the sugar tax is successful in decreasing sugar consumption while avoiding the substitution of SSBs with other, equally unhealthy beverages. It was also recommended that the assessments should be in an understandable language since the sugar tax is self-assessed, and that existing tax infrastructure be used to administer the tax.

For a sugar tax system to be compliant with transparency and accountability, the process of implementing a sugar tax system must be transparent. This can be achieved by undertaking a consultation process with all stakeholders before the process is implemented, as well as when any amendments are made after the initial implementation. The sugar tax system must also be reviewed on a regular basis to ensure that it is still attaining its goal of decreasing sugar consumption. Although all the principles are regarded as important, trade-offs between the principles that were established seem to be practically inevitable and this is considered the norm rather than the exception. For instance, a tax might be fair but at the same time it trades off with the principle of simplicity in order to achieve fairness.

This chapter forms the basis of the conceptual framework against which any sugar tax system can be evaluated. In the next chapter, a comparative analysis of international sugar tax systems is performed. The comparative analysis is performed in order to identify the key elements of a sugar tax system. Once the key elements are identified, the principles established in this chapter's impact on each of the key elements will be determined, which in turn will form the conceptual framework for the evaluation of a sugar tax system.

CHAPTER 3:

COMPARATIVE ANALYSIS OF INTERNATIONAL SUGAR TAX SYSTEMS

3.1 INTRODUCTION

In the previous chapter, a literature review was conducted in order to identify the principles of a good sugar tax system. These principles are a) equity and fairness, b) simplicity and certainty, c) efficiency and low administrative costs, and d) transparency and accountability. This chapter has a two-fold objective. First, a comparative analysis of the international sugar tax systems is performed in order to identify the key elements underlying these tax systems. Second, the impact of the principles that were identified in Chapter 2 on the key elements underlying international sugar tax systems are determined. Once the impact of the principles on the key elements of a sugar tax system is determined, it will form the conceptual framework for the evaluation of any sugar tax system.

The conceptual framework will enable the evaluation of the South African sugar tax system in Chapter 4. To provide background and context for the comparison of the international sugar tax systems, a brief history and the working of sugar tax systems are discussed first, after which the comparative analysis of the international sugar tax systems is performed.

3.2 A BRIEF HISTORY AND WORKING OF SUGAR TAX SYSTEMS

Before sugar tax systems can be addressed, it is necessary to understand what an excise tax is. An excise tax is a tax that is imposed on high-volume consumable products that are used on a daily basis. The primary function is to ensure a steady income stream for the state, and the secondary function is discouraging consumption thereof (Jou & Techakehakij, 2012:84; Cynader, 2014:13; SARS, 2018c). *The Legal Dictionary* (2018) defines an excise tax as an indirect tax that is normally levied on the manufacturer of a certain product but is then usually passed along to the consumer. In South Africa, excise taxes are paid by manufacturers. However, the tax is usually passed through to the consumer by increasing product prices with the amount of the excise tax. The excise tax is self-assessed by the manufacturers and periodically filed with SARS, either monthly or quarterly (SARS, 2018c).

Excise taxes can be levied in one of two ways. First, they can be levied on specific detail (e.g. cents per gram) or ad valorem (percentage of the value of the product) (South Africa: Department of National Treasury, 2016a:14; WHO, 2017:9). Various types of health taxes have been introduced during the last few years in the form of excise taxes. One of these health taxes is the sugar tax. The sugar tax has the objective of addressing the obesity epidemic by decreasing consumer consumption of sugar, which is linked to the prevalence of obesity (Franck, Grandi & Eisenberg, 2013:1949; WHO, 2014). Denmark made history by implementing the world's first fat tax system in 2011, which was the first excise tax introduced globally with the objective of addressing obesity (BBC News, 2012; Franck *et al.*, 2013:1949). However, Denmark's fat tax has since been recalled (Bødker, Pisinger, Toft & Jørgensen, 2015). Various countries have followed Denmark's example by implementing different versions of either a fat tax or a sugar tax system. The taxes have either been introduced on food items containing high fat percentages or SSBs containing high percentages of sugar (Franck *et al.*, 2013:1949; WHO, 2017:6). Countries where sugar taxes have been implemented include France, Mexico, Mauritius, the United Kingdom (UK), Ireland, Barbados, various cities of the USA, Hungary, Finland, Belgium, Norway, some Pacific Island countries and territories, Chile, and Portugal. Detailed descriptions of the sugar tax system in each country follow later. First, the focus shifts to the arguments for and against a sugar tax.

The arguments for a sugar tax mainly centre around the expected health benefits of decreased sugar consumption. Discouraging sugar intake is expected to decrease the prevalence of obesity and therefore improving the health of individuals. Johnson *et al.* (2007b:904) found that there is a definite global link between sugar consumption (specifically fructose) and NCDs such as hypertension, diabetes, and obesity. The link established by Johnson *et al.* (2007b:904) was corroborated by a study conducted by Te Morenga, Mallard and Mann (2013:5) on adults in Copenhagen, the USA, and Spain. The study found that there was indeed a link between the sugar intake by adults and their weight. They found that adults with unrestricted diets, who are free to choose what they eat and drink, had a determinant of body weight, which was the intake of SSBs (Te Morenga *et al.*, 2013:5). The link between sugar consumption and NCDs is the motivation behind the WHO's (2017:9) plea with countries facing an obesity epidemic to implement a sugar tax system. The WHO's plea was met with mixed reactions, although many researchers support a sugar tax system.

The arguments against sugar tax centre more around the question whether the intended outcome of decreasing the prevalence of obesity will be achieved through implementing a sugar tax, as well as the concern that a sugar tax will be regressive, rather than with the issue of lower-income households carrying the heaviest burden of the tax. Although some researchers have found a link between sugar consumption and obesity, others have not (Johnson, Mander, Jones, Emmett & Jebb, 2007a:562). Johnson *et al.* (2007a) conducted a study among British children to determine whether there was a link between the consumption of SSBs and obesity. The study found that there was no positive correlation between the consumption of SSBs in children aged five and seven to obesity at age nine. The study concluded that SSBs accounted for only 15% of all drinks consumed by the children. It is therefore important that each country establish if there is a definite link between sugar consumption and obesity before the introduction of a sugar tax system. Many researchers argue that a sugar tax system is not the right tool to use in the battle against obesity since it is regarded as discriminatory and the administrative burden of a sugar tax is uncertain (Bahl, 2011:2; European Competitiveness and Sustainable Industrial Policy Consortium, 2014). Snowdon (2015b) also raised the concern that a sugar tax can have the unintended consequence of consumers substituting taxed beverages with other, equally unhealthy, untaxed items and therefore mitigating the intended effect of the sugar tax.

The consequences of the implementation of a sugar tax system are therefore still unclear, with no long-term data available yet. The uncertainty of the consequences of a sugar tax is another motivation for the need to determine whether a sugar tax system is in fact a good tax system. The comparative analysis of international sugar tax systems is performed in the next section. The analysis will identify the key elements underlying international sugar tax systems. Once the key elements are identified, the impact of the principles of a good sugar tax system on each key element will be discussed.

3.3 STATUTORY REQUIREMENTS AND POLICY DESIGN TYPES

Before the comparative analysis can be performed, it is necessary to determine what design types are used to implement a sugar tax system. The comparative analysis will be performed by comparing the international sugar tax design types, which will enable the identification of the key elements underlying a sugar tax system, as well as the key elements that are most common among international sugar tax systems.

As mentioned in Section 3.2, excise taxes can be levied in one of two ways. It can be levied on specific detail or ad valorem (South Africa: Department of National Treasury, 2016a:14; WHO, 2017:9). A specific excise tax is preferred if the objective of such a tax is to alter consumer behaviour; in this case to decrease the consumption of sugar in the form of SSBs (WHO, 2017:9). Choosing a design type based on a specific rate (ad valorem) is usually easier than implementing a specific excise tax with regard to the administration of the tax but this type of policy needs constant increases to take inflation into account (McDonald, 2015:2). Ad valorem taxes can also leave room for tax avoidance if taxpayers resort to under-invoicing, which can become a complex situation if there is no consensus among the country's revenue service and manufacturing sector regarding the value of the targeted product at a specific point in the production chain. Ad valorem taxes can also be problematic if the market introduces poorer-quality products at cheaper prices with the intent of undermining the tax (McDonald, 2015:30; South Africa: Department of National Treasury, 2016a:14). When deciding on which type of excise tax to use, the government must also consider whether the tax is going to target a specific product (for example, the price of an SSB) or the ingredients contained in the product (for example, the quantity of sugar) (McDonald, 2015:30). Choosing the type of excise tax is therefore the starting point for the design of the tax policy.

In general, a tax policy is designed based on five key elements. The general key elements of a tax system are, first, the tax base, which is the amount on which tax is levied. With regard to excise taxes, the tax base is a certain good or service (Cynader, 2014:6; WHO, 2018). Second, the tax unit must be determined, which is the person liable for paying the tax. Third, the tax rate must be established. Fourth, the tax period must be established, meaning the period after which the specific type of tax will be payable. Last, the administrative aspects of the tax must be set in order to determine who must collect the tax, if it will be reviewed, and how it will be enforced (Cynader, 2014:6). However, it is still uncertain what the key elements of a general sugar tax system are. The international comparative analysis is performed later in this chapter in order to identify what the key elements of the sugar tax systems are.

When implementing a tax based on the consumption of a consumer on a selective basis, such as a sugar tax, specific consideration must be given to defining the tax base and tax rate. This is because excise taxes often discriminate in intent and usually has a form of quantitative measure that is used to determine the tax liability (South Africa: Department of National

Treasury, 2016a:14). If the tax base and rate are not defined carefully, the tax can be easily avoided by manufacturers, or items that are taxed can easily be substituted for non-taxed items by consumers (Nielsen & Popkin, 2004:209; Wang, Bleich & Gortmaker, 2008:1613); thus resulting in an ineffective tax that does not reach its objectives. It is because of the fact that the sugar tax can be easily avoided through the substitution effect that the design of a sugar tax system is so important.

The different design types of international sugar tax systems can be divided into three broad categories (South Africa: Department of National Treasury, 2016a:15). The sugar tax system can either be introduced by applying a flat levy on all SSBs (ad valorem), it can tax every gram of sugar contained in the products targeted (specific), or it can follow a threshold approach by granting a tax-free minimum sugar content per product (specific) (McDonald, 2015:2; South Africa: Department of National Treasury, 2016a:15). The working of each of the design types is discussed briefly in the following sections, after which all countries utilising the specific design types are discussed.

3.3.1 Design type 1: Flat levy on all SSBs

The advantage of a flat levy is a fixed percentage tax on all beverages irrespective of its sugar content, which therefore makes the administration much easier for consumers and manufacturers (Healthy Caribbean Coalition [HCC], 2016:28). If the excise tax is levied on the specific sugar content of the drink, such as in design types 2 and 3, it will make the monitoring thereof more difficult since determining each product's specific sugar content can be time-consuming and complex (McDonald, 2015:8; HCC, 2016:28). Design types 2 and 3 will thus be more suited for a developed country that has the necessary infrastructure (HCC, 2016). It might therefore be easier for a developing country to use the flat levy approach when introducing a sugar tax (HCC, 2016:7). Although the flat levy approach is easier to administer, it has the pitfall that it does not incentivise manufacturers for reformulating their products in a healthier way and it is usually not as effectively passed through to the consumer (Bonnet & Réquillart, 2011b:25). It can therefore be argued that the flat levy approach does not address the health concerns since it provides no benefit for manufacturers in reformulating their products, leaving the sugar content thereof unchanged. If the tax is not effectively passed through to the consumer, there will be little to no price increase, with little or no change in consumer behaviour. The flat levy approach is therefore usually implemented if the objective

of a new tax is to generate tax revenue rather than to achieve a social objective (South Africa: Department of National Treasury, 2016a:15). Countries that have introduced a sugar tax in the form of a flat levy are discussed in the following sections.

3.3.1.1 France

An excise tax on SSBs, sugar, as well as artificially sweetened beverages, was introduced in France during 2012 (France, 2015; Askew, 2017). The taxable unit of the sugar tax is the manufacturers in France delivering drinks to the French market, as well as taxpayers that import drinks from other countries into the European Union (EU) that are delivered to the French market (France, 2015).

The tax base of the French sugar tax includes SSBs, as well as drinks containing at least 220 mg of caffeine per litre (France, 2015). Excluded from the tax base are growth milks, nutrition products, and infant milks, as well as drinks that are earmarked to be directly exported (France, 2015). The tax base is therefore defined as all non-alcoholic drinks suitable for human consumption containing added sugars but also including drinks containing artificial sweeteners (sugar-free drinks) and caffeinated beverages (France, 2015; Berardi, Sevestre, Tépaut & Vigneron, 2016:3984). France listed the most common artificial sweeteners that fall within the scope of the sugar tax, namely acesulfame potassium, aspartame, ayclamic acid, saccharin, sucralose, etc. However, natural sweeteners such as steviol glycosides and thaumatin are excluded from the tax base. Also specifically excluded from the scope of the tax are pure fruit or vegetable juices, drinks for medicinal purposes, as well as high-protein drinks intended for malnourished persons. The drinks must be packaged in containers that are intended for retail sale by a professional, such as a manufacturer or restaurant owner. The scope is further broadened and includes all drinks containing 1,2% volume alcohol or less or 0,5% in the case of beers (France, 2015). What is interesting is that drinks provided to consumers in unclosed cups do not fall within the tax base (France, 2015).

The tax was originally introduced at 7,53 euros (EUR) per 100 litres. There is also a tax on energy drinks containing more than 200 mg of caffeine per 100 litres at EUR101,90 (France, 2015; Finland, 2018b). Bottled water is also included in the tax base and carries an excise tax of 0,54 cents per litre (France, 2015; Finland, 2018b). During the budget announcement of October 2017, it was proposed that the sugar tax be amended to a specific excise tax, taxing

each gram of sugar contained in SSBs. This proposed amendment can lead to a EUR20 tax per 100 litres in the future (McPartland, 2017). The proposed amendment was made because the previous tax of EUR7,53 per 100 litres did not make enough of an impact in decreasing sugar consumption (McPartland, 2017).

The sugar tax is payable once the product is sold. The administration of the sugar tax is unconventional since, according to the legislation, it is not seen as a general excise tax and should not be administrated using the general excise tax system (France, 2015). The products circulate without any accompanying community documentation, and the seller and buyer do not have any particular tax status regarding the disposal and acquisition of sugary drinks. There is thus no formality attached to the system, which might cause problems in the collection of the tax (France, 2015).

3.3.1.2 Barbados

Barbados implemented a 10% excise tax on SSBs during 2016. The sugar tax is levied on the manufacturers, or, if imported, on the importers (HCC, 2016:2). Barbados specified the items that are affected by the tax in very specific detail. The specific definition of products affected by the sugar tax makes it easier for consumers, retailers, and policy enforcers to identify which products are subject to the tax (HCC, 2016:8). The Ministry of Finance considered various approaches to the implementation of a sugar tax in Barbados but ultimately decided to simply impose a flat levy on beverages with added sugars due to the simplicity thereof (HCC, 2016:8). All beverages containing intrinsic sugars are subject to the tax but 100% natural fruit juices, coconut water, plain milk, and evaporated milk are specifically exempt from the tax (HCC, 2016:9).

The tax is recovered via VAT and the excise tax administration system, which is operated as a whole (HCC, 2016:11). The use of already implemented infrastructure therefore makes it easier for companies that are already registered for VAT to administer the sugar tax. The payment of the excise tax is a voluntary process but is subject to audit to ensure full compliance. The funds raised by the sugar tax were set to be used to improve healthcare in Barbados but no amount was earmarked for a specific designation (HCC, 2016:11).

3.3.1.3 *The United States of America (USA)*

Many cities in the USA have passed a soda tax, with Berkeley (California) being the first in 2014 to implement a sugar tax, of which the objective was to address obesity. Other cities include Philadelphia (Pennsylvania), San Francisco (California), Oakland (California), Albany (California), Boulder (Colorado), Cook County (Illinois), Portland (Oregon), and Seattle (Washington) (Lee, 2016). Most of the revenue generated from the tax is earmarked to fund educational purposes such as day-care facilities (Boseley, 2017).

The tax in all cities is levied on the first supply of the SSBs, either by the manufacturers or importers, and is referred to as a general tax, while being treated as an excise tax (City of Berkeley, 2016; City of Seattle, 2017a; City of Boulder, 2018; City of Portland, 2018; City of San Francisco, 2018). The American cities implemented the sugar tax system in very similar ways. Most cities specifically exempt small retailers with an annual turnover of less than 100 000 United States dollar (USD), as well as SSBs containing natural sweeteners such as honey. The tax base typically includes any beverage containing added sweeteners that are suitable for human consumption and that add calories to the diet if consumed (City of Berkeley, 2016; City of Seattle, 2017b; City of Boulder, 2018; City of Portland, 2018; City of San Francisco, 2018). This includes all beverages made with water, ice, powder, coffee, tea, fruit juice, and vegetable juice or carbonation or other gas if added caloric sweeteners are used. Pure fruit and vegetable juices, infant formula, medicinal products, meal replacement products, milk products, and artificially sweetened SSBs are specifically exempt from the tax base. Philadelphia is the only city that also taxes beverages containing artificial, non-caloric sweeteners, including stevia, aspartame, sucralose, neotame, acesulfame potassium, saccharin, and advantame (City of Berkeley, 2016; City of Seattle, 2017b; City of Boulder, 2018; City of Portland, 2018; City of San Francisco, 2018; Philadelphia, 2018).

The taxes were introduced in most cities at a penny per ounce, which is a 10% excise tax; the only exception being Philadelphia, which introduced a 15% tax (City of Berkeley, 2016; City of Seattle, 2017a; City of Boulder, 2018; City of Portland, 2018; Philadelphia, 2018; City of San Francisco, 2018; Philadelphia, 2018). Various cities followed, with most of the cities implementing a sugar tax during the 2017 calendar year (City of Berkeley, 2016; City of Seattle, 2017a; City of Boulder, 2018; City of Portland, 2018; City of San Francisco, 2018; Philadelphia, 2018).

All the cities' sugar tax is administered as an excise tax and is payable monthly following the month in which the tax was collected. The retailer buying from the manufacturer must declare this transaction to the city in order to ensure compliance with the sugar tax legislation (City of Berkeley, 2016; City of Seattle, 2017a; City of Boulder, 2018; City of Portland, 2018; City of San Francisco, 2018; Philadelphia, 2018).

3.3.1.4 Mexico

Mexico implemented a 20% tax on soda drinks. This amounted to a one-peso-per-litre tax on SSBs. The proposed tax was accepted in 2013 and took effect on 01 January 2014. The senate of Mexico also approved an 8% tax on high-calorie foods containing more than 275 calories per 100 g (with low nutritional value) such as chocolates, ice cream, cookies, sugary cereals, etc. The tax on the food items was also effective from 01 January 2014.

All non-dairy and non-alcoholic flavoured drinks, concentrates, powders, syrups, and essences are included in the tax base if they contain any added sugar. Non-basic food items such as salty snacks, confectionery products, chocolate and other cocoa products, puddings, fruit and vegetable sweets, creams, and ice creams are included in the tax base for high-calorie foods. The manufacturers of SSBs are taxed, meaning that the sugar tax in Mexico is treated as an excise tax (Mexico: Chamber of Deputies of the Mexican Congress, 2018). The tax is reported monthly using the existing excise tax structures (Mexico: Chamber of Deputies of the Mexican Congress, 2018).

3.3.1.5 Belgium

Belgium introduced a sugar tax of EUR3,7284 per 100 litres from 2016 on all non-alcoholic beverages containing any added sugars. The tax base of the sugar tax includes all non-alcoholic beverages that contain any added sugars. However, the tax specifically excludes any milk- or soya-based drinks, as well as fruit and vegetable juices, even though they might contain added sugar (European Commission, 2018a). This is in contrast with the sugar tax legislation of most countries, which only exempt 100% pure fruit and vegetable juices. The tax is implemented as an excise tax and is levied upon the first supply of SSBs in Belgium, therefore on the manufacturers of SSBs. The tax is also payable monthly using existing excise tax infrastructure (European Commission, 2018a).

3.3.2 Design type 2: Tax each gram of sugar contained in the product

Specific excise taxes are preferred if the intention of the tax is to alter consumer behaviour, since it taxes a beverage based on its sugar content and is not simply levied at a fixed rate (WHO, 2017:9). The higher the sugar content, the higher the tax and the higher the price, which will most likely be able to alter consumer behaviour, with consumers switching to beverages that are cheaper and that also contain less sugar. Specific taxes are also more effective in keeping consumers from simply switching to less expensive brands since the tax is based on the specific sugar content of each drink. Even though the specific excise tax is preferred over a flat levy to alter consumer behaviour, the specific excise taxes must be adjusted on an ongoing basis to take inflation into account (McDonald, 2015:2; WHO, 2017:9). Countries that have introduced a specific excise tax per gram of sugar are discussed in the following sections.

3.3.2.1 Hungary

Hungary introduced a public health product tax in 2011 on a wide range of products that contain unhealthy ingredients (WHO, 2018). The list includes pre-packaged sweetened products such as sweets, biscuits, confectionery products, bakery products, and cocoa-containing products; soft drinks with added sugar; fruit jams and similar sweetened preserves; flavoured beer with added sugar; alcoholic soda beverages; alcoholic beverages; energy drinks; and excessively salty snacks (WHO, 2018). According to Hagenaaers, Jeurissen and Klazinga (2017:4), Hungary has the widest scope of products targeted by the health tax. The policy was amended during 2015 to also include alcoholic beverages (Hunter College New York City Food Policy Center, 2017).

Together with the introduction of the excise tax, Hungary also introduced incentives for poultry, milk, and fish products that encourage taxpayers to buy healthier food. In order to determine whether a product will be subject to the health product tax, products must undergo laboratory tests in order to identify the levels of unhealthy ingredients contained in the product, such as high levels of salt and sugar, which makes it a complex process (WHO, 2018). Although this process might be complex and time consuming, the state assessed the administrative burden of the tax on the manufacturers and sellers of SSBs and found it to be minimal. The health tax is levied on the first domestic sale in Hungary, therefore on the manufacturers or importers (Hungary, 2016). The tax base is quite complex for sugary drinks. It includes all items with added sugars, including sucrose, honey, and cocoa. The added sugar

of the drink will be taxable if it is not a natural constituent in the drink, meaning that the sugar is added as an ingredient and is not intrinsic. The sugary drinks do not have to be in fluid form to be used for immediate consumption, implying that all products, even those that are frozen, are taxable (Hungary, 2016). The tax base only includes products that are pre-packaged and does not include products in tanks, containers, bags, or buckets (Hungary, 2016).

In addition to the beverages, salty snacks are also taxed in Hungary, including all baked, extruded, and roasted products containing more than 1 g of salt per 100 g, excluding bread and bakery products with a salt content of up to 2 g per 100 g (Hungary, 2016). With regard to salty snacks, only ready-to-eat products are taxed and therefore frozen items are specifically excluded from the tax base, as well as snacks made using methods that are not seen as baking, extruding, or roasting (such as frying or puffing). Confectionery is also taxed if it is a pre-packaged product, other than mustard or ketchup, if the content exceeds 5 g of salt per 100 g, as well as non-dried, shredded, or pulverised vegetable products containing more than 15 g of salt per 100 g (Hungary, 2016). Flavoured beer in a pre-packaged product containing beer and added sugar or sweeteners containing 5 g of sugar or equivalent sweetener per 100 ml are also taxed, and fruit products containing any added sugar that exceeds 35 g per 100 g are also taxable (Hungary, 2016).

People supplying less than 50 litres or 50 kg of the taxable products in a calendar year are exempt from the health tax. The tax is levied at seven Hungarian forint (HUF) per litre on soft drinks that are not in syrup format and HUF200 per litre for soft drinks in syrup format. The rest of the products included in the tax base carry a health tax of between HUF20 and HUF900 per litre or kilogram, whichever is applicable (Hungary, 2016).

The tax is basically administered together with VAT in Hungary (Hungary, 2016; WHO, 2018). If the taxable person is not registered for VAT, the said person must declare the tax liability for sugar tax before the 25th day of the second month following the tax year (Hungary, 2016).

3.3.2.2 Finland

Finland has taxed confectionery and chocolate since 1926 (Finland, 2018b). Finland abolished a sugar tax (on ice cream and confectionery) in 1999 but reintroduced a sugar tax effective as of 01 January 2011, of which the tax base was very broad and included soft drinks, ice cream,

and confectionery for all products packed in retail packaging not exceeding five litres (Finland, 2018b). Finland has since abolished the tax on ice cream and confectionery at the beginning of 2017, with only a tax on soft drinks remaining (Hofverberg, 2015). The tax base for soft drinks includes all ready-to-drink SSBs, as well as bottled water, juices, and soft drinks – sugared as well as non-sugared. Specifically excluded from the tax base are clinical nutritional supplements, infant formulas and follow-on formulas, baby foods, dietary products, food supplements, and medicinal products (Finland, 2018b). Manufacturers producing less than 50 000 litres of soft drinks in a calendar year are also not included in the scope of the sugar tax. The tax is levied on any person who manufactures sweets, ice cream, or soft drinks (Finland, 2018b).

The fact that all beverages are included in the scope of the tax, including beverages containing no added sugar, supports the idea that the sugar tax was not implemented in order to achieve a health objective but rather to create a revenue stream for the government (Hofverberg, 2015; Hageaars *et al.*, 2017:1). The tax revenue raised from the sugar tax is also not specifically earmarked for community, health promotion, or educational programmes (Hageaars *et al.*, 2017:4).

All beverages included in the tax base are taxed at EUR0,22 per litre, while all sugar-free beverages, including bottled water, are taxed at EUR0,11 per litre. If beverages are in solid form, it is taxed at EUR1,40 per kilogram for items and EUR0,95 per kilogram for sugar-free solid beverages (European Commission, 2018a; Finland, 2018b). The tax is an excise tax and is administered using existing excise structures (Finland, 2018b; European Commission, 2018a).

3.3.2.3 Pacific Island countries and territories (Samoa, Nauru, Fiji, Cook Islands, French Polynesia, American Samoa, and Tonga)

Most of the Pacific regions levy excise taxes on SSBs by taxing the manufacturers of SSBs, and they are either specific or ad valorem excise taxes (McDonald, 2015:11). The sugar taxes in the Pacific Island countries and territories were implemented between 2011 and 2017 (Thow *et al.*, 2011:54; McDonald, 2015:39). All these taxes were implemented because of rising concern regarding the high percentage of soft drink consumption in these countries (McDonald, 2015:1).

The sugar tax is implemented mostly the same in all the Pacific Island countries and territories, with a tax being imposed on all non-alcoholic SSBs, syrups, and concentrates used in the preparation of soft drinks. In addition, Samoa and French Polynesia have an additional tax on confectionery (Republic of Nauru: Minister for Finance, 2008; Thow *et al.*, 2011:60; Tonga: Ministry of Revenue and Customs, 2013; American Samoa Bar Association, 2014; McDonald, 2015:39). The governments of most of the Pacific Island countries and territories proposed to use the revenue raised from the sugar tax to fund hospitals and preventive health interventions (Thow *et al.*, 2011:61).

McDonald (2015:2) found that an average sugar tax of USD0,15 per 355 mm can of soda is levied in the Pacific region. The excise taxes and import duties are collected by the customs offices or at the ports, whichever is applicable. Existing tax structures of excise taxes on tobacco, alcohol, and petrol are used to collect the sugar taxes (Government of Samoa: Ministry of Health, 2008; Thow *et al.*, 2011:61).

3.3.2.4 Portugal

Portugal introduced a sugar tax on all carbonated drinks during 2017 (Pekic, 2017). Portugal undertook to use the revenue raised from the sugar tax for public health services according to the budget bill that was presented (De Beer, 2016).

The tax is levied on the manufacturers or, if imported, on the importer of the SSBs and is therefore treated as an excise tax (Portugal, 2017:4927). All non-alcoholic beverages intended for human consumption that contain added sugar or other sweetening matter are included in the tax base. The tax base also specifically includes all sweetened beverages with an alcoholic strength not more than 1,2 volume percent (Portugal, 2017:4927). Concentrates, whether in the form of a syrup or powder, which are intended for the preparation of drinks, are also taxed. There are numerous exemptions from the sugar tax, namely milk, soy, or rice drinks; fruit and seaweed juices; vegetable and cereal drinks; almond, cashew, and hazelnut drinks; beverages seen as special dietary supplements; SSBs used in a manufacturing process as a raw material; and SSBs used for research, quality control, and the testing of flavour (Portugal, 2017:4927). Drinks containing less than 80 g of sugar per litre are taxed at EUR8,22 per 100 litres, while drinks containing 80 g or more sugar per litre are taxed at EUR16,46 per 100 litres (Portugal,

2017:4927). The tax is treated as an excise tax and is reported monthly using the existing excise tax structures (Portugal, 2017:4927).

3.3.2.5 Norway

A sugar tax was introduced on SSBs in Norway in 1981 (South Africa: Department of National Treasury, 2016a:25). The tax is an excise tax that is levied on the manufacturers of the taxed goods (Norway: The Norwegian Tax Administration, 2018). Norway's tax base includes all non-alcoholic beverages that contain either added sugar or artificial sweeteners that are either in syrup or final form; however, non-alcoholic beverages in powder form are excluded from the tax base (Norway: The Norwegian Tax Administration, 2018). Non-alcoholic beverages are taxed at 4,75 Norwegian krone (NOK) per litre if it is in final form. Concentrates are taxed at NOK28,91 per litre and juices/syrups based on fruit, berries, or vegetables that do not contain any added sugar at NOK1,70 per litre (Norway: The Norwegian Tax Administration, 2018). Concentrates that do not contain any added sugar are taxed at NOK10,32 per litre. Specifically excluded from the tax base are non-alcoholic beverages that are used as a raw material in the production of another product (Norway: The Norwegian Tax Administration, 2018).

There is also a tax on imported chocolate and confectionery (sugar) or locally produced chocolate and confectionery, even if it does not contain any added sugar or sweetener. Chocolate and confectionery are charged at NOK36,92 per kilogram. The only exemption available is if the chocolate or confectionery is used as a raw material in the production of another product, for example chocolate used for ice creams and pastries (Norway: The Norwegian Tax Administration, 2018). The sugar tax is reported digitally. All businesses that are registered as taxpayers can access the platform on which the sugar tax is declared (Norway: The Norwegian Tax Administration, 2018). The business must be registered as a taxable person for sugar tax, which can be done on the tax authority's website (Norway: The Norwegian Tax Administration, 2018).

3.3.2.6 Mauritius

Mauritius introduced an excise tax during February 2013 on the sugar content of soft drinks. The initial excise tax was levied at 0,2 Mauritian rupees (MUR) per gram of sugar. It was increased to MUR0,3 per gram as from 01 January 2014 (MRA, 2018). The tax is treated as an

excise tax and therefore manufacturers and importers of products included within the tax base are liable for the tax (MRA, 2018).

The tax base includes non-alcoholic beverages containing sugar and includes juices, milk-based beverages, and soft drinks (MRA, 2018). This includes any aerated beverages, syrup, fruit squash, cordial, or drink. Specifically exempt from the tax base are soft drinks containing only artificial sweeteners and bottled water. Exported drinks are also not subject to the tax (MRA, 2018).

The excise tax is applicable to all sugars in terms of Mauritian legislation that includes sucrose, lactose, maltose, fructose, and glucose. The excise tax initially exempted artificially sweetened drinks, bottled water, pure fruit and vegetable juices, and dairy milk and milk products (MRA, 2018). From 2016, however, the legislation was again adjusted to include fruit juices and milk-based beverages since it was found that most consumers substituted taxed products with milk-based beverages or fruit juices (Charalambous, 2016; MRA, 2018). Manufacturers and importers of SSBs must be registered at the Registration Unit of the Mauritius Revenue Authority's Customs, after which they are issued with a licence. The tax must be submitted monthly using existing excise tax structures (MRA, 2018).

3.3.3 Design type 3: Tax-free minimum sugar threshold

A threshold approach with the implementation of a sugar tax will encourage manufacturers to reformulate their products in order to stay below what is considered a relatively 'healthy' threshold (South Africa: Department of National Treasury, 2016a:15; UK: Her Majesty's Revenue & Customs [HMRC], 2018). The threshold approach can lead to high administrative costs but would be ideal in a developed country that has the available infrastructure (South Africa: Department of National Treasury, 2016a:15).

The threshold will also most probably have to be adjusted in the future to ensure that the revenue generated from the excise tax is sustainable in the future, since it is predicted that most manufactures will reformulate their products (McDonald 2015:30; South Africa: Department of National Treasury, 2016a:25; UK: HMRC, 2018). Countries that have implemented the tax-free minimum sugar threshold are discussed in the following sections.

3.3.3.1 Chile

Chile introduced an ad valorem tax in October 2014 on SSBs that contain a certain amount of sugar, whether it is added or intrinsic sugar. The tax is essentially treated as a higher VAT rate. Because the tax is effectively seen as VAT, it is filed together with the VAT return and paid accordingly (Chile, 2014). In addition to the higher VAT levied on SSBs, Chile lowered the VAT on beverages containing no sugar by 2% during September 2014 (Guerrero-López *et al.*, 2017:185). This was done with the hope that it would encourage consumers to opt for healthier beverages.

Because the ad valorem tax is effectively treated as a higher VAT rate for the targeted items, the tax burden falls on the consumer (Chile, 2014). Chile's sugar tax base includes all non-alcoholic beverages, syrups, as well as any product that is used to prepare similar beverages to which colourants, flavouring, or sugar have been added (Chile, 2014). The tax is only triggered if a product includes more than 15 g of sugar per 240 ml or equivalent portion (Chile, 2014). Therefore there is a tax-free threshold for all SSBs. All products included in the tax base containing more than 15 g of sugar per 240 ml result in a higher VAT rate of 18% instead of the normal 13%. Effectively, a 5% ad valorem tax is therefore levied on SSBs (Chile, 2014).

3.3.3.2 Ireland

Ireland implemented a sugar tax on SSBs on 01 May 2018. However, a sugar tax is not a new phenomenon in Ireland. From 1916 to 1992 a similar excise duty was imposed on table water, which was levied at 2,2 pence on a 330 mm can of cola. The excise tax was scrapped in 1992 as part of a tax reform. The original excise tax was not motivated by health concerns but rather of a fiscal nature since it was levied on all aerated waters and beverages, including syrups and liquids, that were sold in bottles, cans, casks, or any type of closed container (Ireland: Department of Health, 2016:14). The original tax was levied at 0.10 Irish pounds (IEP) per gallon from 1916 to 1980, after which it was increased to IEP0,37 per gallon and reduced in 1990 to IEP0,29, until it was abolished in November of 1992 (Ireland: Department of Health, 2016:14).

The government's hope is that the new sugar tax that was implemented during 2018 will encourage taxpayers to reduce their intake of SSBs and that manufacturers of SSBs will reformulate their products to reduce levels of added sugars. Ireland also emphasised that in

order for the policy to be successful, it must involve multiple approaches, including the re-investment of the tax proceeds toward actions that support healthy lifestyles (Ireland: Department of Health, 2016:4; Pope, 2017). The sugar tax is levied on the first supply of SSBs in Ireland; implying that it is levied on the manufacturers and is to be treated as an excise tax (Ireland: Department of Health, 2016:22).

Ireland's tax base includes all non-alcoholic drinks, whether water-based or juice-based, which contain more than 5 g of sugar per 100 ml (Ireland: Department of Health, 2016:21). Excluded from the tax base are 100% fruit juices that do not contain any added sugars and dairy-based products, since they are seen to provide nutritional value. Ireland argued that a specific excise tax will be more effective than an ad valorem tax since it will apply evenly to multipacks and large-volume SSBs (Ireland: Department of Health, 2016:21). The sugar tax is imposed at EUR0,20⁶ per litre if the drink contains between 5 and 8 g of sugar per 100 ml and EUR0,30 per litre if the drink contains more than 8 g of sugar per 100 ml (Ireland: Department of Health, 2016:21). The first 5 g of sugar will therefore be tax free (Ireland: Department of Health, 2016:21; Pope, 2017). The tax is reported monthly via existing excise tax structures (Ireland: Department of Health, 2016:20).

3.3.3.3 *United Kingdom (UK)*

The UK introduced a sugar tax during 2018. The revenue generated from the sugar tax is specifically earmarked for the Department of Education, and will be used to fund anti-obesity initiatives in schools (UK: HMRC, 2016). Manufacturers that have produced more than 1 million litres of beverages in a 12-month period and importers of SSBs are liable for the sugar tax (UK: HMRC, 2018). Small producers (producing less than 1 million litres in 12 months) and exported beverages are not subject to the tax. The tax is levied in two different categories. For SSBs containing more than 5 g of sugar per 100 ml, the levy is 0,18 British pounds (GBP) per litre and a GBP0,24 per litre tax for beverages containing more than 8 g per 100 ml (UK: HMRC, 2016). This includes dilutable cordials, squashes, and syrups according to the expected sugar content after dilution. Pure fruit juices and milk-based products are exempt from the tax since they provide nutritional value. Alcoholic drinks containing 1,2% or less alcohol is included in the scope of the tax; however, low alcoholic drinks specifically designed to help

⁶ Ireland accepted the Euro as its official currency from 01 January 2002 (European Commission, 2018b).

adults reduce their alcohol consumption are exempt from the tax (UK: HMRC, 2016). Sugars such as pure cane sugar, sucrose, and glucose, as well as honey, other than in fruit and vegetable juices and milk, are seen as sugar for the purposes of the sugar tax policy. Exempt from the tax base are drinks containing at least 75% milk, drinks that are an alternative to milk and contain at least 120 ml of calcium per 100 ml, alcohol replacement drinks such as a de-alcoholised beers or wines, and infant milks and baby foods or foods formulated for the purpose of diet replacement or medical purposes (UK: HMRC, 2016).

Manufacturers of SSBs must register within 30 days after they become liable for registration. Manufacturers are taxed according to self-assessment; implying that the manufacturers must declare the volume of litres (at each rate) liable to the sugar tax (UK: HMRC, 2016). Returns must be submitted quarterly to the HMRC Office. If drinks are imported, the importers must report the drinks in the UK and pay the levy when the drinks are first received at the business premises (UK: HMRC, 2016).

3.3.4 Key design elements of international sugar tax systems

Based on the research conducted, certain similarities were identified in the design of international sugar tax systems. These similarities can be regarded as the key design elements of international sugar tax systems. From the comparison of the different designs of international sugar tax systems, it was found that these sugar tax systems comprise the following key elements, namely the design type, the taxable unit, the tax base, the tax rate, as well as the tax period and administrative provisions. Next, the design options in respect of each of these key elements need to be considered in order to understand the options available when designing a sugar tax system.

3.4 COMPARATIVE ANALYSIS OF INTERNATIONAL SUGAR TAX DESIGNS

In order to identify the different design options in respect of the most common key elements underlying international sugar tax systems, the various international sugar tax designs have to be compared in a table. Based on the findings of Section 3.3, the key elements of a general sugar tax system were identified as the design type, taxable unit, tax base, tax rate, and the tax period and administrative provisions (Cynader, 2014). In Table 3, the international sugar tax designs are compared based on the key elements of a general sugar tax system that were identified in Section 3.3. Only taxes on SSBs are used in the comparison since other types of

health taxes fall outside the scope of this study. In addition, the majority of taxes on SSBs include only non-alcoholic beverages in its scope, therefore, this study will only refer to a tax base of non-alcoholic drinks. To enable fair comparison, all sugar taxes are converted to a percentage tax based on the sugar content of a one-litre Coke. The conversion to a percentage is based on the average price of a one-litre Coke for the 2017 calendar year in the respective countries. The one-litre Coke was chosen for comparison since Coke is one of the most recognised brands in the world, with Coke being available in all countries, except for Cuba and North Korea (Wilton, 2015; Rosenberg, 2017), and it contains added sugar with the same recipe used worldwide. The use of a percentage rather than an amount will also assist in the determination of the impact of the tax principles on the sugar tax system since most research is based on the implementation of a certain percentage sugar tax.

Table 3: Comparative analysis of international sugar tax systems

Country/ Region	Design type	Taxable unit	Tax base	Tax rate (% of value of beverage based on the sugar content of a one-litre Coke)	Tax period and administrative provisions
France	#1	Manufacturer /Importer	All non-alcoholic drinks containing added sugar or artificial sweetener (non-nutritive)	Percentage: 12%	Not a general excise tax; collected using no formal system
Barbados	#1	Manufacturer /Importer	Beverages with added sugars	Percentage: 10%	Paid using the VAT system
USA	#1	Manufacturer /Importer	Varies from SSBs to artificially sweetened beverages	Percentage: 10%-15% Average: 12,5%	Collected monthly as an excise tax through existing excise tax structures
Mexico	#1	Manufacturer /Importer	All non-dairy and non-alcoholic flavoured drinks, concentrates, powders, syrups, and essences are included in the tax base if they contain any added sugar. Non- basic food items such as salty snacks, confectionery, chocolate and other cocoa products, puddings, fruit and vegetable sweets, and creams and ice creams are included in the tax base for high-calorie foods	Percentage: 10%	Collected monthly as an excise tax through existing excise tax structures
Belgium	#1	Manufacturer /Importer	All non-alcoholic beverages containing added sugars. Specifically exempt items include milk- and soy-based beverages, as well as any fruit and vegetable juice, even though they contain added sugar	Percentage: 3%	Collected monthly as an excise tax through existing excise tax structures
Hungary	#2	Manufacturer /Importer	Soft drinks with added sugar	Percentage: 3,6%	Treated using the VAT system; indicated on the VAT invoice
Finland	#2	Manufacturer /Importer	All SSBs, water, and products containing certain milk	Percentage: 14,5% Percentage: 7,28%	Excise tax collected monthly

Country/ Region	Design type	Taxable unit	Tax base	Tax rate (% of value of beverage based on the sugar content of a one-litre Coke)	Tax period and administrative provisions
			-Sugar-free beverages		through existing excise structures
Pacific Islands	#2	Manufacturer /Importer	All non-alcoholic beverages and syrops or concentrates used for the preparation of soft drinks, carbonated soft drinks, cordials, flavoured milks, and drink mixes	Varies from 5% to 40% Average percentage: 22,5%	Collected through existing excise tax structures or at ports, whichever is applicable
Portugal	#2	Manufacturer /Importer	Soft drinks (not on milk-based or fruit juices containing added sugar) Also taxed sugar-free versions such as Coke Lite and Coke Zero	Percentage: More than 80 g per litre: 16% Less than 80 g per litre: 8%	Collected as an excise tax through existing excise tax structures
Norway	#2	Manufacturer /Importer	Non-alcoholic beverages containing added sugar or sweeteners, as well as chocolates and sugar	Percentage: 12,5%	Declared using a digital platform designed by the state
Mauritius	#2	Manufacturer /Importer	Any aerated beverage, syrup, or fruit squash containing any type of 'sugar' (sucrose, lactose, maltose, fructose, and glucose)	Percentage: 12,6%	Collected as an excise tax through existing excise tax structures
Ireland	#3	Manufacturer /Importer	All water-based and juice-based beverages containing added sugar	Percentage: More than 8 g per 100 ml: 25% Between five and 8 g per 100 ml: 17,5%	Collected as an excise tax through existing excise tax structures
Chile	#3	On the consumer	Non-alcoholic beverages, naturally or artificially flavoured containing more than 15 g of sugar per 240 ml or with an equivalent portion	5% additional VAT	Is effectively a higher VAT rate collected via the VAT system
UK	#3	Manufacturer /Importer	All SSBs, including dilutable cordials, squashes, and syrups	Percentage: Between 5 and 8 g: per 100 ml: 9,9% More than 8 g per 100 ml: 13,2%	Collected as an excise tax through existing excise tax structures and paid quarterly

Source: Compiled by Author

Table 3 shows all the available options in terms of each key element of a sugar tax system based on the designs of international sugar tax systems. From the data collected from the various countries in the comparative analysis, the design options available with regard to each key element can be summarised as follows:

Design type

- Flat levy on SSBs (#1);
- Specific excise tax on each gram of sugar content of SSBs (#2); or
- Specific excise tax on each gram of sugar content of SSBs, including a tax-free threshold (#3).

Taxable unit

- Manufacturers of SSBs; or
- Consumers.

Tax base

- All non-alcoholic SSBs containing added sugar, excluding pure fruit juices and milk products;
- All non-alcoholic SSBs containing added sugar, including pure fruit juices and milk products; or
- All non-alcoholic SSBs containing either added sugar or artificial sweeteners.

Tax rate

- Tax rates vary internationally between 5% and 40%.

Tax period and administrative provisions

- Excise tax filed monthly using existing tax infrastructure;
- Excise tax filed quarterly using existing tax infrastructure; or
- An additional VAT filed using existing tax infrastructure.

From the summary of the comparative analysis in Table 3, it is clear that a general sugar tax system most commonly uses the following options in respect of each of the key elements:

Design type

Design type 2 is the most commonly used design type internationally. Therefore, a general sugar tax system implements a specific excise tax on each gram of sugar content of SSBs.

Taxable unit

Generally, the sugar tax is levied on the manufacturers of SSBs.

Tax base

All non-alcoholic beverages are generally included in the tax base if the beverages contain added sugar, excluding pure fruit and vegetable juices and milk products.

Tax rate

The average sugar tax rate imposed on each gram of sugar is 11,9% based on the value per beverage. This is the average tax rate based on the grams of sugar contained in a one-litre Coke.

Tax period and administrative provisions

The tax is generally collected on a monthly basis using existing excise tax infrastructure.

The common options selected in respect of each of the key elements identified above in the comparison of international group tax systems are shown in descending order in Figure 1:



Figure 1: Most common options elected in international sugar tax systems

Source: Compiled by author

Figure 1 shows that the majority of international tax systems implement a sugar tax in the form of an excise tax. The excise tax is also mostly implemented as a specific tax per gram of sugar contained in the targeted beverage. By comparing all the sugar tax rates, the average sugar tax rate internationally is 11,9%. The average rate was calculated based on the sugar content of a one-litre Coke, as previously mentioned. It can also be seen in Table 3 that the tax bases for most of the sugar tax systems are very similar, with only a few countries taxing artificially sweetened beverages as well. The tax base for most countries include all non-alcoholic beverages, except beverages that provide nutritional value such as milk products, pure fruit juices, and medicinal products. Most countries also tend to use existing excise tax infrastructure for the administration of the sugar tax as it seems that this is the least disruptive way to implement a new tax from an administrative burden perspective

Now that the key elements and the options of each of the key elements underlying international sugar tax systems have been established, the impact of the principles of a good sugar tax system on each of the key elements can be determined.

3.5 IMPACT OF THE PRINCIPLES OF A GOOD SUGAR TAX SYSTEM ON THE KEY ELEMENTS OF A GENERAL SUGAR TAX SYSTEM

The impact of the principles of a good sugar tax system, which were established in Chapter 2, on the key elements of a general sugar tax system is determined in this section. Each of the key elements of a general sugar tax system will now be discussed with reference to the impact that the principles of a good sugar tax system has on them, based on the international options available in respect of each key element. Once the impact of the principles on the key elements of a general sugar tax system is determined, a conceptual framework is established. The conceptual framework can then be used to evaluate whether the South African sugar tax system is a good tax system. The conceptual framework can also assist governments to design a sugar tax system in accordance with each of the tax principles of a good tax system.

The principles of a good sugar tax system that were established in Chapter 2 are allocated to one or more of the key elements of a general sugar tax system. The principles are only discussed in respect of a specific key element if it impacts on that key element, considering the design options available. The allocation is presented in Table 4.

Table 4: Impact of the principles of a good sugar tax system on the key elements of a general sugar tax system

Tax principles of a good sugar tax system as identified in Chapter 2:	Key element of a general sugar tax system impacted (design type, taxable unit, tax base, tax rate, tax period, and administrative provisions)
<p>Equity and fairness:</p> <p>a. The sugar tax’s health benefit must outweigh the burden thereof for lower-income households.</p> <p>b. A sugar tax is regarded as fair if it does not only tax certain food or drinks products but all products containing sugar.</p> <p>c. The sugar tax must provide an incentive to manufacturers to reformulate their products to contain less sugar.</p>	<p>Design type</p> <p>Tax base</p> <p>Design type, taxable unit</p>
<p>Simplicity and certainty</p>	

Tax principles of a good sugar tax system as identified in Chapter 2:	Key element of a general sugar tax system impacted (design type, taxable unit, tax base, tax rate, tax period, and administrative provisions)
<ul style="list-style-type: none"> a. The tax base must be kept as simple as possible. b. Taxpayers must be informed of the working of the sugar tax. c. Existing infrastructure must be utilised to simplify the administration of the sugar tax. 	<ul style="list-style-type: none"> Tax base Design type Tax period and administrative provisions
<p>Efficiency and low administration costs</p> <ul style="list-style-type: none"> a. The sugar tax system must be able to decrease sugar consumption by being passed through to consumers, as well as avoiding the substitution effect. b. It should earmark the tax revenue for health-promotion initiatives. c. It should utilise existing tax infrastructure for the administration thereof. 	<ul style="list-style-type: none"> Design type, tax rate (pass-through rate), tax base (avoid substitution) Design type Tax period and administrative provisions
<p>Transparency and accountability</p> <ul style="list-style-type: none"> a. Governments must implement the sugar tax system in a transparent way by following a consultation process with all stakeholders. b. Governments must undertake to review the sugar tax system regularly in order to ensure its relevancy. 	<ul style="list-style-type: none"> Design type Design type

Source: Compiled by author

Based on the allocation of the various principles of a good sugar tax system’s impact on the key elements of a general sugar tax system, each of the key elements of a general sugar tax system is discussed with reference to the impact of each principle as shown in Table 4.

3.5.1 Impact of the principles of a good sugar tax system on a general sugar tax system’s key element: Design type

3.5.1.1 Equity and fairness

Table 4 shows that the principle of equity and fairness impacts on design type in two ways. Firstly, the sugar tax’s health benefits must outweigh the burden thereof for lower-income households. Secondly, the sugar tax must provide an incentive for manufacturers to reformulate their products to contain less sugar. The starting point, therefore, is to determine whether a

sugar tax is regressive, and, if so, whether it provides a justified health benefit to lower-income households.

Many studies have found the sugar tax system implemented as an excise tax to indeed be regressive, with conflicting results regarding the health effects for lower-income groups (Brownell *et al.*, 2009:3; Nnoaham, Sacks, Rayner, Mytton & Gray, 2009:1329; Finkelstein *et al.*, 2010:2032; Lin *et al.*, 2011:336; Nordström & Thunström, 2011:269; Zhen Finkelstein, Nonnemaker, Karns & Todd, 2014:25). However, most studies' findings regarding the impact on lower-income households were simulated and not based on actual data. It would therefore be better to rely on research based on actual data after the implementation of a sugar tax. Because the sugar tax is a relatively new tax, research is limited.

Sassi *et al.* (2018:2067) conducted an international study based on household expenditure and consumer responses to price changes of all countries that have implemented health price policies. The study found that lower-income households did bear the largest financial burden in terms of a sugar tax since the purchase of SSBs is larger in proportion to monthly income than higher-income households. However, the study concluded that the health benefits generated by a policy such as the sugar tax will be mostly felt by lower-income households consuming SSBs since it is these lower-income households that bear the largest financial burden. Sassi *et al.* (2018:2068) also reiterated that although the lower-income households will benefit the most, higher-income households might still accrue large health gains where there is a high prevalence of consumption of SSBs in these households. The health benefits provided to lower-income households with the tax revenue generated by a sugar tax also increased since lower-income households benefit disproportionately from public health support (Sassi *et al.*, 2018:2068).

Consistent with Sassi *et al.*'s (2018) findings, Colchero, Popkin, Rivera and Ng (2016:7) found that lower-income households were more responsive to the introduction of a sugar tax than higher-income households, with the lower-income households decreasing their consumption of taxed SSBs by up to 17%. The relatively steep decrease in consumption of lower-income households might indicate that lower-income households will benefit more in terms of health in the future than higher-income households. This is because of the fact that they are more responsive to the introduction of a sugar tax and will in turn most likely decrease their consumption of SSBs more noticeably than higher-income households. The study was based

on actual data collected two years after the introduction of the sugar tax in Mexico. From the research based on actual data after the implementation of a sugar tax, it can be predicted that it will indeed be the lower-income households that will benefit the most from the introduction of a sugar tax in terms of health.

If the benefit received by lower-income households exceeds the burden thereof, it is considered to be appropriate with regard to both horizontal and vertical equity (Davis Tax Committee, 2016:14). If the three options of design type, namely a flat levy, a specific excise tax on each gram of sugar, and a specific excise tax on each gram of sugar with a tax-free threshold, are considered, it would seem that the specific excise tax with a tax-free threshold design type is the best option when considering the health impact on lower-income households. As mentioned in Sections 3.3.1 to 3.3.3, a flat levy is usually not effective in altering consumer behaviour, whereas a specific tax is more effective since it taxes each beverage based on its sugar content (Bonnet & Réquillart, 2011b:25; South Africa: Department of National Treasury, 2016a:15; McDonald, 2015:2; WHO, 2017:9). This implies that the higher the sugar content, the higher the price. In addition, a specific excise tax introduced together with a tax-free threshold is more effective in motivating manufacturers to reduce the sugar content of the beverages, which in turn will assist in consumers lowering their sugar consumption. If these arguments are considered from the perspective of the health benefit obtained by lower-income households, it seems that the specific excise tax with a tax-free threshold is the best design type to implement to achieve the first requirement of the principle of equity and fairness.

The second requirement of the principle of equity and fairness applicable to the design type of the general sugar tax system is the availability of an incentive to manufacturers of SSBs. If there is a form of reward or incentive for manufacturers to reformulate their products, the sugar tax will be perceived as fair and equitable. The incentive can either be the implementation of a lower tax rate or a tax-free threshold for beverages containing minimal sugar. Based on the three options available with regard to a sugar tax – a flat levy, a specific excise tax, or a specific excise tax with a tax-free threshold – the design type with a tax-free threshold is regarded as more equitable and fair than the other options. This is because of the fact that a flat levy is imposed irrespective of a beverage's sugar content, while a specific tax, although more equitable and fair than a flat levy, provides no incentive to the manufacturers of SSBs. However, the implementation of a tax-free threshold is considered more equitable and fair than the other options since it encourages manufacturers to decrease the sugar content of their

beverages, thereby justifying the tax as a health-promotion tax (Ireland: Department of Health, 2016:5). If manufacturers reformulate their products to gain the incentive of a tax-free threshold, it can also minimise economic hurdles such as job losses, which is also more equitable and fair towards the employees in the manufacturing industry (Ireland: Department of Health, 2016:5).

Impact: If a government strives to achieve equity and fairness with its design type, the tax-free threshold approach should be chosen as the design type.

3.5.1.2 Simplicity and certainty

Table 4 shows that for a sugar tax system design type to be simple and certain, taxpayers must be informed of the working of the sugar tax.

With regard to the three options available under design type, the use of a flat levy sugar tax is the option that promotes simplicity and certainty since it is easily enforceable and implemented. The use of a specific sugar tax per gram of sugar is regarded as more complex than the flat levy. However, the implementation of a specific excise tax is still regarded as simpler than the implementation of a specific excise tax together with a tax-free threshold, since the tax-free threshold increases the complexity of the sugar tax system (HCC, 2016:8). It seems that of the three options, a flat levy is the option that promotes the simplicity and certainty principle the best.

Impact: If a government strives to achieve simplicity and certainty with its design type, a sugar tax in the form of a flat levy should be implemented. This will simplify the implementation of the tax and will also provide certainty to taxpayers.

3.5.1.3 Efficiency and low administration costs

The principle of efficiency and low administration costs impacts on the element of design type from the perspective of the ability of the tax to decrease sugar consumption and the earmarking of tax revenue. With regard to the ability of the sugar tax to decrease sugar consumption, the design type of a specific tax including a tax-free threshold is the best option. Implementing a tax-free threshold incentivises manufacturers to reformulate their products in order to decrease

the sugar content. Once this is done, consumers' sugar consumption will automatically also decrease (Ireland: Department of Health: 2016:15).

In addition to the design type, the compliance of this key element with the principle of efficiency and low administrative costs will be enhanced if the tax revenue generated by the sugar tax is earmarked for health-promotion initiatives. It was determined in Chapter 2 that taxpayers are more willing to pay a sugar tax if the revenue is specifically earmarked for health-promotion initiatives, which in turn will increase the efficiency of the tax. Based on the international data available, most countries have earmarked the tax revenue generated from a sugar tax specifically to promote health-related initiatives, including France, Hungary, French Polynesia, Ireland, and Portugal, while other countries have earmarked the revenue for educational purposes, including Chile, the UK, and the USA (Thow *et al.*, 2011; De Beer, 2016; Ireland: Department of Health, 2016:30; Health24, 2016; UK: HMRC, 2016; Boseley, 2017; Hagedaars *et al.*, 2017:4; Pope, 2017). It seems that, from the research conducted, the support for sugar taxes in these countries where the tax revenue is specifically earmarked is more prominent than in other countries (Wright *et al.*, 2017:11). Therefore, from the options available internationally regarding the design type, the earmarking of tax revenue should be added in order to promote the principle of efficiency and low administration costs.

Impact: If a government strives to implement a sugar tax system that is efficient and has low administrative costs, a tax-free threshold must be implemented and revenue generated from the sugar tax should be earmarked for health-promotion initiatives.

3.5.1.4 Transparency and accountability

Table 4 shows that the design type is impacted by this principle from two perspectives. Governments must implement the sugar tax system in a transparent way by following a consultation process with all stakeholders and governments must also undertake to review the sugar tax system regularly in order to ensure its relevancy.

Based on the three options available in terms of the design type, it does not contain specific information regarding the consultation processes followed in reviewing the sugar tax system. Internationally, numerous consultations and information sessions were held with stakeholders to inform them of the working of the sugar tax and which items will be included in the tax base. The tax governing bodies usually include the most important information of the working of a

sugar tax in the form of an FAQ format (City of Berkeley, 2016; Ireland: Department of Health, 2016; City of Seattle, 2017a; City of Portland, 2018; City of San Francisco, 2018; Norway: The Norwegian Tax Administration, 2018; Philadelphia, 2018; SARS, 2018a). This process of consultation ensures that the policy design is done in a transparent way, which in turn ensures the accountability of all parties involved. With regard to the regular review of the sugar tax system, some countries such as Barbados and Mauritius have committed themselves to review the sugar tax system on a regular basis to ensure that it attains its objective of decreasing the prevalence of obesity (Ernst & Young, 2015; MRA, 2018). As seen from the case of Mauritius, where the sugar tax system was reviewed after a period of two years, the tax base was adjusted to now also include pure fruit juices and milk products after their initial exemption. The amendment was a result of consumers substituting taxed beverages with fruit juices and milk products, mitigating the effect of the sugar tax on the prevalence of obesity in the country (Charalambous, 2016). Based on the fact that the consultation processes promotes transparency and accountability and that the regular review of the sugar tax system ensures that problems can be rectified on a timely basis, these two points must be added to the design types to ensure it promotes the design types' transparency and accountability.

Impact: In order to implement a sugar tax system that is transparent and ensures accountability, a government should consult all stakeholders before the implementation of such a tax and commit itself to the regular review of the sugar tax system.

3.5.2 Impact of the principles of a good sugar tax system on a general sugar tax system's key element: Taxable unit

3.5.2.1 Equity and fairness

Table 4 shows that the key element of a taxable unit is influenced by the principle of equity and fairness in the sense that the sugar tax must provide an incentive to manufacturers to reformulate their products to contain less sugar. It was established in Section 3.5.1 that the tax-free threshold is preferable with regard to a sugar tax system's design type. However, the taxable unit is also influenced by the principle of equity and fairness based on the two options available in terms of taxable unit, namely the manufacturers of SSBs or the consumers. If the tax is imposed on the manufacturers, it can be said to be more equitable and fair than if the consumers are taxed. If the manufacturers of SSBs are taxed, it taxes the manufacturers based on the sugar content of the beverages, which will most likely force the manufacturers to

reformulate their products to lower the sugar content thereof (Ireland: Department of Health, 2016:5). On the other hand, if the consumers are taxed, the manufacturers have no incentive to reformulate their products since they are not affected by the tax if it is accepted that the demand for SSBs are relatively inelastic (Ireland: Department of Health, 2016:5). Therefore, it seems that the option of taxing the manufacturers is preferred in terms of equity and fairness.

Impact: For a sugar tax system to be equitable and fair, it should tax the manufacturers of SSBs.

3.5.2.2 Simplicity and certainty

The key element of a taxable unit was found not to be affected by this principle.

3.5.2.3 Efficiency and low administrative costs

The key element of a taxable unit was found not to be affected by this principle.

3.5.2.4 Transparency and accountability

The key element of a taxable unit was found not to be affected by this principle.

3.5.3 Impact of the principles of a good sugar tax system on a general sugar tax system's key element: Tax base

3.5.3.1 Equity and fairness

Table 4 shows that the principle of equity and fairness impacts the key element of the tax base. A sugar tax will be regarded as equitable and fair if it does not only tax certain food or drinks products but all products containing sugar. There are three options available with regard to the tax base internationally: first, the taxation of all non-alcoholic beverages containing added sugar, excluding pure fruit juices and milk products; second, the taxation of all non-alcoholic beverages containing added sugar, including pure fruit juices and milk products; and third, the taxation of all non-alcoholic beverages containing added sugar, as well as added artificial sweeteners.

It was established in Chapter 2 that, according to public opinion, it is unfair that a sugar tax system taxes only SSBs and no other food or drink products. However, SSBs are specifically targeted by the sugar tax since SSBs provide empty calories that contain no or very little nutritional value (Reedy & Krebs-Smith, 2010:1478). This argument is not as overpowering for other food and drink products that contain more nutritional value than SSBs, including pure fruit juices and milk products, even though the other food and drink products might also contain high levels of unhealthy products such as sugar, fat, or salt (Ireland: Department of Health, 2016:20). In order to gain the public's support for a sugar tax and for it to be perceived as a fair tax, awareness about the poor nutritional value of SSBs must be raised (WHO, 2017:23). Although the tax might be discriminatory and unfair by only taxing SSBs, it is justified in its implementation. From the available international options, it seems that the first option, namely taxing all non-alcoholic beverages containing added sugar, excluding pure fruit juices and milk products, is the most equitable and fair option since pure fruit juices and milk products contain nutritional value whereas other SSBs do not.

Impact: Although it is unequitable and unfair that a sugar tax system only taxes SSBs and not all products containing sugar, it is justified in its implementation. Therefore, if the tax base is to be equitable and fair, from the perspective of a sugar tax on SSBs, the tax base should include only non-alcoholic SSBs containing added sugar but should exclude fruit juices and milk products.

3.5.3.2 *Simplicity and certainty*

Table 4 shows that simplicity and certainty impact the key element of a tax base. The tax base must be kept as simple as possible. The tax base must also be extensive enough to avoid the substitution effect.

With regard to the simplicity of the tax base, it can be simplified if the tax base includes all products containing sugar, without any items being exempt. Since all three options that are available internationally with regard to the tax base contain exemptions such as medicinal products and infant milks (refer to Section 3.3), they are regarded as relatively equal from the perspective of simplicity and certainty. Although the tax base can be quite complex, Mirrlees (2011:82) stated that it is sometimes necessary to complicate the tax policy in order to achieve fairness. As previously mentioned, the justification of the taxation of SSBs lies in the fact that

SSBs provide empty calories, whereas other products, including fruit juices and milk products containing sugar, provide nutritional value. It can therefore be said that the principle of simplicity is sacrificed in order to achieve fairness.

Impact: If the tax base is to be simple and certain, there should not be complex exemptions from the tax base and it should also include all products containing sugar.

3.5.3.3 Efficiency and low administrative costs

According to Table 4, the tax base of a sugar tax system must be designed in such a way that avoids the substitution effect. The WHO (2017) urges countries to make the tax base of sugar tax systems extensive so as to avoid substitution with other, equally unhealthy, untaxed products. However, it is unclear as to how extensive the tax base should be and whether it pertains only to SSBs or other food products as well. Finkelstein *et al.* (2013:220) observed the substitution of SSBs in the USA with 12 major food categories. Although some studies found no evidence to support the substitution of SSBs with that of food items, canned soup was identified as one of the potential substitutes that can lead to a 1,9 calorie increase in consumers' daily consumption (Block, Amitabh, McManus & Willett, 2010; Finkelstein *et al.*, 2013:223). Because canned soup can also be more energy dense than SSBs, Finkelstein *et al.* (2013:223) warned that the substitution effect can potentially offset the decrease in calories of SSBs. Due to the substitution effect, some scholars warn that estimates of weight loss is grossly overestimated by up to 700% in Year 10 after implementation, which can lead to unrealistic expectations (Lin *et al.*, 2011:336; Briggs *et al.*, 2013:7; Escobar *et al.*, 2013:7). Lin *et al.* (2011:336) also stressed that consumers will respond to the tax by reallocating their beverage budget among all relevant beverages, including pure fruit juices and milk products, which can be more energy dense than regular SSBs (United States Department of Agriculture/Agricultural Research Service [USDA/ARS], 2011). Their finding was supported by other studies (Dharmasena & Capps, 2012:679; Escobar *et al.*, 2013:6; Finkelstein *et al.*, 2013:225), which found that fruit juices and milk products are used as substitutes for SSBs. However, if the three options of the tax base are considered, all three only pertain to SSBs and no other food groups. The fact that the options only include SSBs in their scope was discussed in Section 3.4, and it was found to be justified in Section 3.5.3. If these three options are considered, it seems that the tax base, which includes all non-alcoholic beverages including pure fruit juices and milk products, is the best option of the three. This is because of the fact that some dieticians warn that by not including pure fruit juices and milk products in the tax base, the ability of the sugar

tax to decrease the prevalence of obesity might be lost since pure fruit juices and milk beverages contain roughly the same amount of calories as other SSBs (Caswell, 2009:277). This argument is supported by the fact that Mauritius adjusted its tax base two years after implementation to also include pure fruit juices and milk products. This amendment was made after it was found that the substitution of taxed SSBs with fruit juices and milk products mitigated the impact of the sugar tax (Charalambous, 2016). Therefore, for a sugar tax system that taxes only SSBs to attain its objective of decreasing sugar consumption, it must include pure fruit juices and milk products in its tax base if it wants to avoid the substitution effect.

Since most of the research pertaining to the substitution effect consists of simulated studies, it is best to refer to actual data. However, actual data relating to the efficiency of a sugar tax system are limited. Colchero, Rivera-Dommarco, Popkin and Ng (2017:570) found that the sugar tax in Mexico led to a 7,6% decline in the consumption of taxed beverages; however, the demand for untaxed beverages, such as milk and pure fruit juices, increased with 2,1%. Although the demand for untaxed beverages such as pure fruit juices and milk products did not increase by as much as the demand for taxed beverages decreased, the substitution effect can mitigate the impact of a sugar tax on the prevalence of obesity.

Impact: If the tax base wants to ensure efficiency and low administrative costs, it should be extensive to include all products containing sugar, specifically pure fruit juices and milk products, with regard to SSBs.

3.5.3.4 Transparency and accountability

The key element of a taxable unit was found not to be affected by this principle.

3.5.4 Impact of the principles of a good sugar tax system on a general sugar tax system's key element: Tax rate

3.5.4.1 Equity and fairness

The key element of a tax rate was found not to be affected by this principle.

3.5.4.2 Simplicity and certainty

The key element of a tax rate was found not to be affected by this principle.

3.5.4.3 *Efficiency and low administrative costs*

The only principle that has a noticeable impact on the tax rate is the principle of efficiency and low administrative costs, as shown in Table 4. The sugar tax can only decrease sugar consumption if the tax is passed through to consumers.

Internationally, sugar tax rates vary between 5% and 40%. However, the percentages cannot be compared since the pass-through rates of the taxes vary. The pass-through rate is inconsistent worldwide, with some cases having no pass-through rate and cases where manufacturers have increased prices by more than the amount of tax with most percentages varying from about 63% to over 300% (Bergman & Hanson, 2010:18; Cawley & Frisvold, 2015:22; Grogger, 2015:6; Berardi *et al.*, 2016:3991). The inconsistency of the pass-through rate can be attributed to the fact that the pass-through rate of a tax depends on multiple factors, including the elasticity of demand, the beverage type, the brand, and the retailer selling the beverage (Bergman & Hanson, 2010:9; Grogger, 2015:5; Berardi *et al.*, 2016:3992). However, it was discussed in Section 2.4.3.1 that it is predicted that the pass-through rate of a sugar tax will be under-shifted since the international demand for SSBs is inelastic. In agreement with this prediction, Falbe, Rojas, Grummon and Madsen (2015:2196) found that soda beverages had an average pass-through rate of 69%, while fruit-flavoured beverages had a 47% pass-through rate. Overall, the average pass-through rate was found to be 47% for all types of beverages (Falbe *et al.*, 2015:2198). This estimation of the pass-through rate was corroborated by Cawley and Frisvold (2015:22), who determined the actual pass-through rate of beverages in Berkeley City in the USA. Forty-seven percent will be accepted as the pass-through rate of the general sugar tax system's pass-through rate since it is the most conservative. In order to determine the tax rate that must be implemented, the pass-through rate must be considered. Brownell *et al.* (2009:4) found that a tax on SSBs lower than 10% is not sufficient to have a noticeable effect on the consumption of SSBs and recommended that a 10% excise tax should be sufficient to alter consumer behaviour. Bonnet and Requillart (2013:1102) confirmed Brownell *et al.*'s findings (2009:3) and agreed that a 10% sugar tax would be sufficient to alter consumer behaviour. However, both studies assumed a perfect pass-through rate (Bergman & Hanson, 2010:3; Grogger, 2015; Berardi *et al.*, 2016:3992). Brownell *et al.*'s (2009:3) and Bonnet and Requillart's (2013) findings can therefore be rephrased to state that the tax rate should be imposed at a level that causes a 10% increase in the price of SSBs to effectively

change consumer behaviour. If it then assumed that the pass-through rate is 47%, a sugar tax of at least 21,3% will have to be implemented to achieve a 10% increase in the price of SSBs.

Impact: If the tax rate wants to ensure compliance with the principle of efficiency and low administrative costs, it must be implemented at a rate that ensures at least a 10% increase in the price of beverages. If the pass-through rate of 47% is assumed, as mentioned in Section 3.5.4.3, it implies that a sugar tax rate of 21,3% should be implemented.

3.5.4.4 Transparency and accountability

The key element of a tax rate was found not to be affected by this principle.

3.5.5 Impact of the principles of a good sugar tax system on a general sugar tax system's key element: Tax period and administrative provisions

3.5.5.1 Equity and fairness

The key element of tax period and administrative provisions was found not to be affected by this principle.

3.5.5.2 Simplicity and certainty

Table 4 shows that existing infrastructure should be utilised in order to simplify the administration of the sugar tax. The sugar tax is administered using existing infrastructure, based on all of the options available internationally. The only difference is the form in which it is administered, namely either as an excise tax or as VAT. It can therefore be concluded that, based on all the options available, they can be viewed as equal with regard to the principle of simplicity and certainty.

Impact: If a sugar tax system wants to achieve simplicity and certainty with regard to the tax period and administrative provisions, it should implement the sugar tax using existing tax infrastructure.

3.5.5.3 Efficiency and low administrative costs

For the key element of tax period and administrative provisions to adhere to this principle, existing infrastructure should be used to administer the tax, as shown in Table 4. This results

in keeping administrative costs to a minimum and promotes economy in collection of the sugar tax. Since it was previously determined that all international options utilise existing tax infrastructure, the options can again be viewed as equal with regard to the principle of efficiency and low administrative costs.

Impact: If a sugar tax system is to be compliant with efficiency and low administrative costs, existing tax infrastructure should be used for the administration of the sugar tax.

3.5.5.4 Transparency and accountability

The key element of tax period and administrative provisions was found not to be affected by this principle.

3.5.6 Ranking of the international options in accordance with the principles of a good sugar tax system

The key elements underlying international sugar tax systems have now been established, as well as the impact of the various principles of a good sugar tax system on the key elements based on the international options available. The impact of the principles on the various key elements forms the conceptual framework for the evaluation of any sugar tax system. However, it is clear from the discussion that many of the principles' impacts on the key elements are conflicting. It can therefore be said that it is highly unlikely that a sugar tax system can comply with all of the requirements of the conceptual framework. Legislators must therefore decide which principles are more important when implementing a sugar tax system. For guidance to legislators, the different options of sugar tax systems available internationally can be ranked according to their compliance with the principles of a good sugar tax system. The ranking is presented in Table 5. However, it should be noted that if the objective of a sugar tax system, namely to reduce the consumption of sugar in the form of SSBs, is taken into account, it can be argued that the principle of efficiency and low administrative costs should be regarded as the most important principle. This is because the principle of efficiency and low administrative costs specifically addresses the ability of the sugar tax to reduce the consumption of sugar by consumers.

Table 5: Ranking of various options in accordance with compliance with the principles of a good sugar tax system

Key element	Options available internationally	General option utilised	Impact of tax principles of a good sugar tax system			
			Equity and fairness	Simplicity and certainty	Efficiency and low administrative costs	Transparency and accountability
Design type	Type 1: Flat levy	√	3	1	3	N/A
	<i>or</i>					
	Type 2: Specific excise tax per gram of sugar contained in SSB		2	2	2	N/A
Taxable unit	<i>or</i>					
	Type 3: Specific excise tax per gram of sugar in SSBs, including a tax-free threshold	1	3	1	N/A	
	Manufacturers of SSBs	√	1	N/A	N/A	N/A
Tax base	<i>or</i>					
	Consumers (in the form of VAT or a general sales tax)	2	N/A	N/A	N/A	
	All non-alcoholic SSBs containing added sugar, excluding pure fruit juices and milk products	√	3	N/A	3	N/A
Tax rate	<i>or</i>					
	All non-alcoholic SSBs containing added sugar, including pure fruit juices and milk products	1	N/A	1	N/A	
	All non-alcoholic SSBs containing both artificial sweetener or added sugar	2	N/A	2	N/A	
Tax period and administrative provisions	Varies from 5% to 45%	Average 11,9%	N/A	N/A	2	N/A
	<i>or</i>					
	Filed through existing tax structures on a monthly basis	√	N/A	1	2	N/A
Tax period and administrative provisions	<i>or</i>					
	Filed through existing tax structures on a quarterly basis	N/A	1	1	N/A	
	Filed together with VAT return if imposed as a higher VAT rate	N/A	1	1	N/A	

Rankings: 1 = more compliant with the principle than the other options; 2= less compliant than ranking 1 but more compliant than the option ranked at 3; 3 = the least compliant option available; N/A = principle was seen to have little to no effect on the options available.

Source: Compiled by author

3.6 CONCLUSION

A comparative analysis of international sugar tax systems was performed in this chapter. In order to provide context and background of the sugar tax system, a brief history and the working of sugar tax systems were also discussed.

Firstly, the history and arguments in favour of and against the sugar tax system were discussed. It is clear from the history that the obesity epidemic was the driving force behind the initial implementation of a sugar tax in Denmark in 2011, with many countries following suit.

Secondly, a comparative analysis of international sugar tax systems was performed in order to determine the key elements underlying international sugar tax systems. The key elements of a sugar tax system were identified as design type, taxable unit, tax base, tax rate, and tax period and administrative provisions. It was derived from the comparative analysis that there are various options that are used internationally with regard to each element. The options available, based on the international comparative analysis, in terms of the design type, entail the implementation of a flat levy, a specific excise tax on SSBs, or a specific excise tax on SSBs together with a tax-free threshold. With regard to the taxable unit, either the manufacturers or consumers of SSBs can be taxed. The international options available for a sugar tax system's tax base include either all non-alcoholic SSBs containing added sugar but exclude pure fruit juices and milk products, all non-alcoholic SSBs containing added sugar including pure fruit juices and milk products, or all non-alcoholic SSBs containing either added sugar or artificial sweeteners. The tax rate varies world-wide, with sugar tax being implemented at percentages ranging from 5% to 40%. The tax period and administrative provisions principle is either administered as an excise tax on a monthly or quarterly basis, or it is filed via the VAT tax system.

Lastly, the impact of the principles of a good sugar tax system on the key elements of a general sugar tax system was determined, which forms the conceptual framework for the evaluation of any sugar tax system. The design type of a sugar tax system was found to be influenced by all of the principles in the conceptual framework of a good sugar tax system, namely a) equity and fairness, b) simplicity and certainty, c) efficiency and low administrative costs, and d) transparency and accountability. The taxable unit was found to be impacted only by the principle of a) equity and fairness. With regard to the tax base of a sugar tax system, it was

concluded that the principles of a) equity and fairness, b) simplicity and certainty, and c) efficiency and low administrative costs impact thereon. The tax rate was found only to be influenced by the principle of c) efficiency and low administrative costs, while the tax period and administrative provisions are influenced by b) simplicity and certainty and c) efficiency and low administrative costs. The conceptual framework for the evaluation of any sugar tax system can be summarised as follows:

Design type

If a government strives to achieve:

- equity and fairness, the tax-free threshold approach is the best policy for a sugar tax system.
- simplicity and certainty, a sugar tax in the form of a flat levy should be implemented. This will simplify the implementation of the tax and will also provide certainty to taxpayers.
- efficiency and low administration costs, a tax-free threshold must be implemented and revenue generated from the sugar tax should be earmarked for health-promotion initiatives.
- transparency and accountability, a government should consult all stakeholders before the implementation of such a tax and commit itself to the regular review of the sugar tax system.

Taxable unit

If a government strives to achieve:

- equity and fairness, the manufacturers of SSBs should be taxed.

Tax base

If a government strives to achieve:

- equity and fairness from the perspective of a sugar tax on SSBs, the tax base should include only non-alcoholic SSBs containing added sugar but exclude fruit juices and milk products.
- simplicity and certainty, there should not be complex exemptions from the tax base and it should also include all products containing sugar.
- efficiency and low administration costs, the tax base should be extensive to include all products containing sugar, specifically pure fruit juices and milk products with regard to SSBs.

Tax rate

If a government strives to achieve:

- efficiency and low administration costs, the sugar tax must be implemented at a rate that ensures at least a 10% increase in the price of beverages. If the pass-through rate of 47% is assumed, as mentioned in Section 3.5.4.3, it implies that a sugar tax rate of 21,3% should be implemented.

Tax period and administrative provisions

If a government strives to achieve:

- simplicity and certainty, it should implement the sugar tax using existing tax infrastructure.
- efficiency and low administrative costs, existing tax infrastructure should be used for the administration of the sugar tax.

Now that the impact of the principles of the conceptual framework of a good sugar tax system on the key elements of a general sugar tax system has been established, the question remains whether South Africa's sugar tax system is a good tax system. In the next chapter, the South African sugar tax system is evaluated against the conceptual framework of a good sugar tax system by using the conclusions reached in this chapter. The evaluation in Chapter 4 is ultimately conducted to determine whether the South African sugar tax system is a good tax system.

CHAPTER 4:

EVALUATION OF THE SOUTH AFRICAN SUGAR TAX SYSTEM

4.1 INTRODUCTION

In this chapter, the South African sugar tax system is evaluated against the conceptual framework of a good sugar tax system, as established in Chapter 3. The evaluation in this chapter is performed in order to determine whether South Africa's sugar tax system is a good tax system.

4.2 BACKGROUND OF THE SOUTH AFRICAN SUGAR TAX SYSTEM

South Africa imposed a sugar tax from 01 April 2018 on all SSBs. The sugar tax is levied on the first supply in the country, imposing the burden on the manufacturers and importers of SSBs (South Africa: Department of National Treasury, 2017c:4). Manufacturers or importers supplying beverages of which the sugar content does not exceed 500 kg per annum are excluded from the scope (South Africa: Department of National Treasury, 2017c:4).

All non-alcoholic beverages are included in the tax base if the beverages contain added sugar with a caloric value containing more than 4 g of sugar per 100 ml. The tax base includes beverages that contain added caloric sweeteners such as sucrose, high-fructose corn syrup, or fruit juice concentrates. The tax base does not include beverages containing only intrinsic sugars, such as unsweetened milk products and 100% fruit juices. Specifically exempt from the tax base are infant milk, milk products, pure fruit and vegetable juices, and products used for medicinal purposes. The sugar referred to includes both intrinsic and added sugar, such as other sweetening matter (South Africa: Department of National Treasury, 2017c:4). The sugar content is determined by either using the food labelling of the SSB as demanded by the Foodstuffs, Cosmetics and Disinfectants Act (No. 54 of 1972), or the beverages must be tested using a certified, recognised test from a testing facility accredited by the South African National Accreditation System or the International Laboratory Accreditation Cooperation. If the manufacturer fails to provide a report, it will be assumed that the sugar content is 20 g per 100 ml. For powder and liquid concentrates, the sugar content is calculated based on the total

volume of the beverage when diluted according to the specifications of the manufacturer (South Africa: Department of National Treasury, 2017c:5).

The tax rate varies between 10 to 11%, based on the sugar content of a beverage, on all drinks included in the tax base, even though the initial proposal suggested a sugar tax of 20%. The sugar tax is payable at 2,1 cent per gram of sugar content exceeding 4 g per 100 ml (South Africa: Department of National Treasury, 2017c:7).

The tax is collected on a monthly basis using existing excise tax structures. Manufacturers and importers must pay the sugar tax on a monthly basis using existing excise tax structures. The reports containing the sugar content must be kept on hand for a period of five years from date of manufacture or importation, or refiled with SARS as soon as the ingredients of a certain beverage are altered (South Africa: Department of National Treasury, 2017c:12).

4.3 EVALUATION OF THE SOUTH AFRICAN SUGAR TAX SYSTEM AGAINST THE CONCEPTUAL FRAMEWORK OF A GOOD TAX SYSTEM

The conceptual framework for a good sugar tax system was established in Chapter 3 and is summarised per key element as follows:

Design type

If a government strives to achieve:

- equity and fairness, the tax-free threshold approach is the best policy for a sugar tax system.
- simplicity and certainty, a sugar tax in the form of a flat levy should be implemented. This will simplify the implementation of the tax and will also provide certainty to taxpayers.
- efficiency and low administration costs, a tax-free threshold must be implemented and revenue generated from the sugar tax should be earmarked for health-promotion initiatives.
- transparency and accountability, a government should consult all stakeholders before the implementation of such a tax and commit itself to the regular review of the sugar tax system.

Taxable unit

If a government strives to achieve:

- equity and fairness, the manufacturers of SSBs should be taxed.

Tax base

If a government strives to achieve:

- equity and fairness from the perspective of a sugar tax on SSBs, the tax base should include only non-alcoholic SSBs containing added sugar but exclude fruit juices and milk products.
- simplicity and certainty, there should not be complex exemptions from the tax base and it should also include all products containing sugar.
- efficiency and low administration costs, the tax base should be extensive to include all products containing sugar, specifically pure fruit juices and milk products with regard to SSBs.

Tax rate

If a government strives to achieve:

- efficiency and low administration costs, it must be implemented at a rate that ensures at least a 10% increase in the price of beverages. If the pass-through rate of 47% is assumed, as mentioned in Section 3.5.4.3, it implies that a sugar tax rate of 21,3% should be implemented.

Tax period and administrative provisions

If a government strives to achieve:

- simplicity and certainty, it should implement the sugar tax using existing tax infrastructure.
- efficiency and low administrative costs, existing tax infrastructure should be used for the administration of the sugar tax.

The South African sugar tax system was evaluated based on the findings of Chapter 3. Before the evaluation is performed, a summary of the key elements of the South African sugar tax system is provided in Table 6.

Table 6: Summary of the South African sugar tax system

Key elements	South African sugar tax system
Design type	Design type 3: A tax-free threshold of 4 g per 100ml is implemented, after which each gram of sugar is taxed.
Taxable unit	Manufacturers or importers of SSBs.
Tax base	All non-alcoholic beverages if the beverages contain added sugar (with caloric value). Specifically exempt from the tax base are unsweetened milk and milk products, pure fruit and vegetable juices, and products used for medicinal purposes.
Tax rate	10% of the value of the beverage based on the sugar content of a one-litre Coke.
Tax period and administrative provisions	The tax is collected on a monthly basis using existing excise tax structures.

Source: Compiled by author

4.3.1 Evaluation of the South African sugar tax system’s design type

The South African sugar tax system’s design type was evaluated in accordance with the conclusions made in Chapter 3. The following principles of the conceptual framework of a good sugar tax system have an impact on the design type of a sugar tax system:

If a government strives to achieve equity and fairness with its design type, the tax-free threshold approach is the best policy for a sugar tax system.

South Africa’s sugar tax system levies 2,1 cents per gram of sugar contained in a beverage, of which the first 4 g of sugar are tax-free (SARS, 2018a). The South African sugar tax system therefore follows the tax-free threshold approach and complies with equity and fairness in terms of its design type.

If a government strives to achieve simplicity and certainty with its design type, the sugar tax must be implemented in the form of a flat levy.

The South African sugar tax system implements the sugar tax in the form of specific excise tax together with a tax-free threshold of 4 g of sugar (SARS, 2018b). Therefore, the design type of the South African sugar tax system does not adhere to the principle of simplicity and certainty.

If a government strives to implement a sugar tax system that is efficient and has low administrative costs, a tax-free threshold must be implemented and revenue generated from the sugar tax should be earmarked for health-promotion initiatives.

South Africa implemented a tax-free threshold of 4 g of sugar (SARS, 2018b); however, South Africa has not specifically earmarked the tax revenue generated from the sugar tax system for specific health-promotion measures (South Africa: Department of National Treasury, 2017c:11). The South African Treasury (2017c:11) argued that earmarking the tax revenue will result in a rigid budgeting process. The South African sugar tax system is therefore non-compliant with the efficiency and low administration costs principle in terms of its design type.

With regard to a sugar tax system that is transparent and ensures accountability, a government should consult all stakeholders before the implementation of such a tax and commit itself to the regular review of the sugar tax system.

South Africa participated in an extensive consultation process with stakeholders of a sugar tax system over a period of two years, making the implementation of the South African sugar tax system transparent (South Africa: Department of National Treasury, 2017c). Public hearings and negotiation processes were included in this process. Although the implementation of the sugar tax system seems to be generally transparent, the motivation for such a system is not always clear. To support the transparency of the process, it was found that the South African government took into account the concerns of stakeholders, with the tax base being altered to include both intrinsic and added sugar to compromise with health authorities, and the tax rate was also adjusted downward to compromise with the manufacturers (Cullinan, 2017; Mawson, 2017; South Africa: Department of National Treasury, 2017b:6). This shows that the government utilised all stakeholders' input in the design of a sugar tax system. For the South African government to be accountable for the sugar tax system and its continued transparency, it must review the sugar tax system on a regular basis. However, no evidence was found in which the South African government undertook to review the sugar tax system as a whole on a regular basis. It was, however, found that the government has undertaken to review the tax-free threshold in three to five years' time (South Africa: Department of National Treasury, 2017c:10). It can therefore be concluded that the South African sugar tax system only partially complies with the principle of transparency and accountability from the design type perspective.

4.3.2 Evaluation of the South African sugar tax system's taxable unit

If a government strives to achieve equity and fairness, the manufacturers of SSBs should be taxed.

The South African sugar tax system taxes the manufacturers of SSBs, thereby ensuring that the manufacturers are taxed in an equitable and fair manner, with the tax being levied according to each beverage's sugar content (SARS, 2018b).

4.3.3 Evaluation of the South African sugar tax system's tax base

The South African sugar tax system's tax base was evaluated in accordance with the conclusions made in Chapter 3. The following principles of the conceptual framework of a good sugar tax system have an impact on the tax base of a sugar tax system:

If the tax base is to be equitable and fair, it should include all non-alcoholic SSBs containing added sugar but exclude pure fruit juices and milk products.

It was found in Section 4.2.1 that the South African sugar tax system does not include all products containing sugar in its tax base, only non-alcoholic SSBs with certain exemptions. Specifically exempt are pure fruit and vegetable juices and milk products. It can therefore be concluded that the South African sugar tax system complies with the principle of equity and fairness from the perspective of its tax base.

If the tax base is to be simple and certain, there should not be complex exemptions from the tax base and it should also include all products containing sugar.

As mentioned in Section 4.2.1, the tax base can be perceived as quite complex since it not only provides a 4 g tax-free threshold but there are also certain exemptions from the tax base. This increases the complexity of the South African sugar tax system, causing it to be non-compliant with the principle of simplicity and certainty with regard to its tax base.

If the tax base wants to ensure efficiency and low administrative costs, the tax base should be extensive to include all products containing sugar, specifically pure fruit juices and milk products with regard to SSBs.

Because South Africa's sugar tax system does not include all products containing sugar, as mentioned in Section 4.2.1, the possibility of the substitution effect is a reality, with no actual data being available yet. Also, because pure fruit juices and milk products are exempt from the

sugar tax, the likeliness of the substitution effect increases. The South African sugar tax system's tax base therefore does not comply with the efficiency and low administrative costs principle.

4.3.4 Evaluation of the South African sugar tax system's tax rate

If the tax rate aims to ensure compliance with the principle of efficiency and low administrative costs, it must be implemented at a rate that ensures at least a 10% increase in the price of beverages. If the pass-through rate of 47% is assumed, as mentioned in Section 3.5.4.3, it implies that a sugar tax rate of 21,3% should be implemented.

The first step to determine if a sugar tax is passed through to consumers is to determine South Africa's elasticity of demand for SSBs. Limited research has been conducted regarding the demand for SSBs in South Africa (Stacey *et al.*, 2017:257). All research in South Africa to date has assumed that the demand for SSBs is relatively elastic (based on international findings) but a recent study has found that the demand for SSBs is inelastic (Theron, Rossouw & Fourie, 2016:4). However, Stacey *et al.* (2017) and the South African Treasury (2017b:24) found that the demand for SSBs in South Africa is relatively elastic, with a study that estimated a 20% sugar tax to lead to an almost 24% reduction in the demand for SSBs. It is therefore uncertain what the elasticity of demand in South Africa is. If the demand of SSBs is in fact inelastic, a higher sugar tax rate might be necessary in order to achieve the objective of decreasing sugar consumption. A higher sugar tax rate will lead to a more material decrease in the consumption of SSBs (Veerman, Sacks, Antonopoulos & Martin, 2016:3). However, it is difficult to determine the actual pass-through percentage of the sugar tax in South Africa since various factors altered the price of SSBs during 2018. Coca-Cola in South Africa reduced the size of the 330 ml soft drink cans to 300 ml and the 500 ml bottles to 440 ml without adjusting the price. The effect is that consumers are already paying 13% more for the beverages without the implementation of a sugar tax (Child, 2017). In this way, the manufacturing company, Coca-Cola, might unknowingly prevent consumers from reducing their purchases of SSBs since the price is relatively the same (but the amount is not). However, this reduction in the size of beverages might actually assist the sugar tax in reducing sugar consumption in South Africa, even though the intention of the manufacturing industry might have been to avoid a reduction in the demand of SSBs due to higher prices. Another factor complicating the calculation of the pass-through rate is the 1% increase in the VAT rate in South Africa that was implemented on the same date as the introduction of the sugar tax, namely 01 April 2018 (SARS, 2018a).

However, it is estimated that the sugar tax in South Africa has contributed to a price increase of SSBs of between 10 and 11%. This means that the sugar tax of 10% is approximately fully passed through to consumers (Green, 2018; Visser, 2018). This implies that the South African sugar tax system is compliant with the principle of efficiency and low administrative costs from the perspective of its tax rate.

4.3.5 Evaluation of the South African sugar tax system's tax period and administrative provisions

If a sugar tax system wants to achieve simplicity and certainty with regard to the tax period and administrative provisions, it should implement the sugar tax using existing tax infrastructure.

The payment of the sugar tax is administered using existing excise tax structures and it is paid on a monthly basis (SARS, 2018a). Therefore, the South African sugar tax system is compliant with the principle of simplicity and certainty in terms of its tax period and administrative provisions.

If a sugar tax system is to be compliant with efficiency and low administrative costs, existing tax infrastructure should be used for the administration of the sugar tax.

As mentioned in Section 4.2.5, the South African sugar tax is administered using existing tax infrastructure and therefore the sugar tax system is compliant with the principle of efficiency and low administrative costs from the perspective of its tax period and administrative provisions.

The compliance of the South African sugar tax system with the conceptual framework of a good sugar tax system is summarised in Table 7.

Table 7: Summary of the South African sugar tax system’s compliance with the conceptual framework of a good sugar tax system

Key element	Equity and fairness	Simplicity and certainty	Efficiency and low administrative costs	Transparency and accountability
Design type	√	X	P	P
Taxable unit	√	N/A	N/A	N/A
Tax base	√	X	X	N/A
Tax rate	N/A	N/A	√	N/A
Tax period and administrative provisions	N/A	√	√	N/A

√ = Compliant; P = Partially compliant; X = Non-compliant; N/A = Principle not applicable to key element

Source: Compiled by author

From Table 7, it can be deduced that the South African sugar tax system is partially compliant with the principles of a good sugar tax system. It can therefore be said that there is a room for improvement for some of the key elements to become more compliant with the conceptual framework of a good sugar tax system. However, many of the principles contained in the conceptual framework for a good tax system contradict one another and legislators therefore must decide which principles bear the most weight when a sugar tax system is implemented or amended. As mentioned in Section 3.5.6., if the objective of the sugar tax is considered, the principle of efficiency and low administrative costs should be regarded as more important than the other principles. Therefore, for the South African sugar tax system, it is concerning that this is one of the principles that seems to be lacking. If the objective of the sugar tax system is considered, South Africa’s sugar tax system must be adapted in order to conform to the principles of the conceptual framework of a good sugar tax system.

4.4 ADAPTION OF KEY ELEMENTS TO CONFORM TO THE PRINCIPLES OF THE CONCEPTUAL FRAMEWORK OF A GOOD SUGAR TAX SYSTEM

It was found in Section 4.3 that the South African sugar tax system has two key elements, namely the design type and the tax base, which are not fully compliant with the principles of the conceptual framework of a good sugar tax system. From Table 7 it can be seen that the design type of the South African sugar tax system does not comply with the principles of

simplicity and certainty, and only partially complies with the principle of efficiency and low administrative costs. In order for the South African sugar tax system's design type to comply with the principle of efficiency and low administrative costs, it is recommended that the design type be adapted to earmark the tax revenue generated by the sugar tax for health-promotion initiatives. With regard to the principle of simplicity and certainty, the conceptual framework recommends that a flat levy should be implemented in order for the design type to adhere to this principle. However, it was established in Chapter 3 that by implementing a tax-free threshold, as is the case with South Africa's sugar tax system, an incentive is created for manufacturers to reformulate their products. This incentive is in line with the overall objective of the sugar tax, which is to decrease the consumption of sugar in the form of SSBs. It is therefore recommended that the South African sugar tax system's design type remains one with a tax-free threshold, thereby sacrificing the principle of simplicity and certainty in order to achieve the sugar tax system's objective of decreasing sugar consumption. Although the principle of simplicity and certainty is of high importance in South Africa, the Davis Tax Committee (2016:14) reiterates the fact that the non-compliance of a tax system with regard to the principles of a good tax system is sometimes necessary in order to achieve the tax system's objective.

With regard to the tax base, the South African sugar tax system was found to be non-compliant with the principles of simplicity and certainty, and efficiency and low administration costs. However, the non-compliance with simplicity and certainty was due to the fact that the South African sugar tax system achieves equity and fairness in terms of its tax base by excluding pure fruit juices and milk products. The problem is that by excluding pure fruit juices and milk products, the sugar tax system is not regarded as complying with the principle of efficiency and low administrative costs since it was determined that the substitution of taxed SSBS with these products mitigates the effect of the sugar tax on the prevalence of obesity (Charalambous, 2016). Therefore, if South Africa wants to address the obesity epidemic by reducing consumers' sugar intake, the compliance of the sugar tax system with the principle of efficiency and low administration costs should outrank its compliance with the principle of equity and fairness. If the tax base is adapted to include all non-alcoholic SSBs, as well as pure fruit juices and milk products, it will prevent the substitution effect. Although pure fruit and vegetable juices contain more nutritional value than SSBs, they also contain roughly the same amount of calories as SSBs. This recommendation is corroborated by other scholars (Chaufan, Hong & Fox, 2010:89).

From the discussion above, it is evident that some principles must be sacrificed in order to achieve the objective of the sugar tax, which is to address the obesity problem in South Africa by decreasing sugar consumption. If the sugar tax system's key elements are not amended, it will not address South Africa's obesity problem.

4.5 CONCLUSION

In this chapter, the South African sugar tax system was evaluated against the conceptual framework of a good sugar tax system. The evaluation was conducted with regard to each of the key elements of the South African sugar tax system, namely the design type, taxable unit, tax base, tax rate, and the tax period and administrative provisions.

With regard to the design type of the South African sugar tax system, it was found that all four principles of a good tax system, namely a) equity and fairness, b) simplicity and certainty, c) efficiency and low administrative costs, and d) transparency and accountability, have an impact on the design type. However, the South African sugar tax system's design type is only compliant with regard to the equity and fairness principle and only partially compliant with regard to the transparency and accountability principle and efficiency and low administrative costs principle. The design type of South Africa's sugar tax system was found to be non-compliant with the principle of simplicity and certainty.

From the perspective of the taxable unit of the South African sugar tax system, the system was found to be compliant with the principle of equity and fairness. In addition, the South African sugar tax system was found to be compliant with the principle of equity and fairness and non-compliant with the principle of simplicity and certainty and principle of efficiency and low administrative costs from the perspective of its tax base.

The tax rate of the South African sugar tax system is influenced by the principle of efficiency and low administrative costs. The South African sugar tax system was found to be compliant with this principle regarding its tax rate.

The key element of tax period and administrative provisions of the South African sugar tax system is influenced by two principles, namely simplicity and certainty, and efficiency and low

administrative costs. The South African sugar tax system was found to be compliant with both of these principles from the perspective of its tax period and administrative provisions.

The key element of the taxable unit was found not to be influenced by any of the principles of a good tax system.

After the evaluation was performed, it was concluded that South Africa's sugar tax system is partially compliant with the conceptual framework of a good sugar tax system. However, it is unlikely that the South African sugar tax system will be fully compliant with the conceptual framework of a good sugar tax since some of the principles contained in the conceptual framework contradict one another. Therefore, before any amendments are made to the key elements of the South African sugar tax system, legislators must determine which principles are more important since some of the principles will have to be traded off.

The Davis Tax Committee (2016), which makes recommendations to legislators regarding the design of tax policies, regards the principles of equity, efficiency, simplicity, transparency and certainty, and tax buoyancy to be of high importance. However, these principles cannot be considered in isolation and have to be in harmony with the objective of the sugar tax system.

In Chapter 5 the findings of the study are discussed. Key elements of the South African sugar tax system that are compliant with the principles of a good tax system are identified as well as key elements that are non-compliant. For the key elements that are found to be non-compliant, recommendations are made as to how to improve its compliance with the conceptual framework of a good sugar tax system.

CHAPTER 5:

SUMMARY OF THE STUDY AND CONCLUSIONS

5.1 INTRODUCTION

The global epidemic of obesity has forced many countries to act. Many countries, including South Africa, have chosen to implement a sugar tax system with the objective of decreasing consumers' sugar consumption and thereby also decreasing the prevalence of obesity. However, if a tax system is not regarded as a good tax system, it is likely to fail in the long run. It is therefore important to determine whether the sugar tax system in South Africa is a good tax system.

5.2 REACHING THE OBJECTIVES OF THE STUDY

The main objective of this study was to determine whether the South African sugar tax system is considered a good tax system. The main objective of this study was supported by the following research questions, which were answered in the respective chapters.

5.2.1 What are the recognised measures that can be used to evaluate whether the sugar tax system is a good tax system?

It was established in Chapter 2 that the measures used to evaluate a tax system are the principles of a good tax system. The principles of taxation found its existence many decades ago but have since been restructured and reformulated to adapt to our ever-changing world. In order to evaluate a sugar tax system, the most common tax principles were identified. The tax principles were identified by conducting a literature review in order to identify all possible publications referring to newly established principles of a good tax system. The principles were then adapted to be applicable specifically to a sugar tax system, with the following principles being identified: a) equity and fairness, b) simplicity and certainty, c) efficiency and low administration costs, and d) transparency and accountability. These principles formed the basis of the conceptual framework used to determine whether the sugar tax system is regarded as a good one. The principles can be applied to a sugar tax system as follows.

5.2.1.1 Equity and fairness

In order to adhere to the principle of equity and fairness, the sugar tax's health benefit must outweigh the burden thereof for lower-income households since a sugar tax is usually regressive. If the health benefit of the sugar tax is proportionally greater for lower-income households, the regressive nature of the sugar tax is justified by the health benefits that it provides. It is submitted that the sugar tax must tax all products containing sugar and not only one type of sugar, such as SSBs, in order to meet this principle. Manufacturers must also receive an incentive, in the form of a tax-free threshold or a lower tax rate, for reformulating their products to contain less sugar. By receiving an incentive in the form of a tax-free threshold or lower tax rate, manufacturers are encouraged to reformulate their products in order to lower the sugar content. Once the products are reformulated, consumers will consume less sugar per beverage and the manufacturer pays less or no tax at all. If there is no incentive for manufacturers to reformulate their products, the implementation of the sugar tax is not regarded as equitable and fair.

5.2.1.2 Simplicity and certainty

Governments must ensure that the tax base of the sugar tax is kept as simple as possible. In this way, it is easier for taxpayers to know who is liable for the tax and how much tax should be paid. In addition to the simplification of the tax base, taxpayers must be informed of the working of the sugar tax and existing tax infrastructure must be utilised to simplify the administration of the sugar tax.

5.2.1.3 Efficiency and low administration costs

In order to be efficient, a sugar tax system must be able to decrease sugar consumption by passing on the tax to consumers. If a sugar tax is not passed on to the consumers, it will have no effect on the price of SSBs and thereby defeating the purpose of the tax, which is to alter consumer behaviour. Secondly, the sugar tax must also avoid the substitution effect, where consumers merely substitute taxed SSBs for other, equally unhealthy, untaxed SSBs. If the substitution effect occurs, the purpose of the sugar tax will again be defeated in the sense that consumers will not experience a decrease in sugar consumption. Lastly, the sugar tax must earmark the tax revenue generated from the sugar tax for health-promotion initiatives. If taxes are specifically earmarked, the public will be more likely to support the implementation of such

a tax and this therefore makes it more sustainable in the long run. In addition, governments must utilise existing tax infrastructure, which will promote the efficiency and low administration costs principle. If existing tax infrastructure is utilised for the implementation of a sugar tax, the administration costs are kept to a minimum and manufacturers will be more efficient in paying the taxes.

5.2.1.4 *Transparency and accountability*

Governments must implement the sugar tax system in a transparent way by following a consultation process with all stakeholders. Governments must also commit to review the sugar tax system on regular basis in order to ensure its relevancy.

5.2.2 **How can the measures of a good sugar tax system be used to develop a conceptual framework against which a sugar tax system can be evaluated?**

In Chapter 3, a comparative analysis of international sugar tax systems was performed in order to identify the key design elements underlying international sugar tax systems. The key elements that were identified were design type, taxable unit, tax base, tax rate, and tax period and administrative provisions. Once the key elements were identified, the design options in respect of each of the key elements were considered. This was done to determine what the impact of the principles of a good sugar tax system, as identified in Chapter 2, is on the key elements of a general sugar tax system, considering the different design options available. The impact of the principles of a good sugar tax system on each of the key elements forms a conceptual framework that can be used for the evaluation of any sugar tax system.

The design options available internationally, the most common option used by international sugar tax systems in general, and the conceptual framework for each key element follow.

5.2.2.1 *Key element: Design type*

<i>Options available:</i>		
Design type 1: Flat levy on all SSBs	Design type 2: Specific excise tax on each gram of sugar contained in SSBs	Design type 3: Specific excise tax on each gram of sugar contained in SSBs with a tax-free threshold
	√	

√= *Most common option used internationally in sugar tax systems*

Conceptual framework for design type

Equity and fairness:

If governments strive to achieve equity and fairness with their design type, the tax-free threshold approach must be implemented.

Simplicity and certainty:

If a government strives to achieve simplicity and certainty with its design type, the sugar tax must be implemented as a flat levy. This will simplify the implementation of the tax and will also provide more certainty to taxpayers.

Efficiency and low administrative costs:

If a government strives to implement a sugar tax system that is efficient and has low administrative costs, a tax-free threshold must be implemented and revenue generated from the sugar tax should be earmarked for health-promotion initiatives.

Transparency and accountability:

With regard to a sugar tax system that is transparent and ensures accountability, a government should consult all stakeholders before the implementation of such a tax and must commit itself to the regular review of the sugar tax system.

5.2.2.2 Key element: Taxable unit

<i>Options available:</i>	
Consumers of SSBs	Manufacturers of SSBs
	√

√= *Most common option used internationally in sugar tax systems*

Conceptual framework for taxable unit

Equity and fairness:

If a government strives to achieve equity and fairness, the manufacturers of SSBs should be taxed.

Simplicity and certainty:

This principle was found to have no noticeable effect on the taxable unit of a sugar tax system.

Efficiency and low administrative costs:

This principle was found to have no noticeable effect on the taxable unit of a sugar tax system.

Transparency and accountability:

This principle was found to have no noticeable effect on the taxable unit of a sugar tax system.

5.2.2.3 Key element: Tax base

<i>Options available:</i>		
All non-alcoholic SSBs containing added sugar, excluding pure fruit juices and milk products	All non-alcoholic SSBs containing added sugar, including pure fruit juices and milk products	All non-alcoholic SSBs containing added sugar or artificial sweeteners
√		

√= *Most common option used internationally in sugar tax systems*

Conceptual framework for tax base**Equity and fairness:**

If the tax base is to be equitable and fair, it should include all non-alcoholic SSBs containing added sugar but exclude pure fruit juices and milk products.

Simplicity and certainty:

If the tax base is to be simple and certain, there should not be complex exemptions from the tax base and it should also include all products containing sugar.

Efficiency and low administrative costs:

If the tax base aims to ensure efficiency and low administrative costs, the tax base should include pure fruit juices and milk products, thereby preventing the substitution of taxed items with items that are contain roughly the same amount of calories.

Transparency and accountability:

This principle was found to have no noticeable effect on the tax base of a sugar tax system.

5.2.2.4 Key element: Tax rate

<i>Options available:</i>	
5%	45%
<i>General option: Average tax rate of 11,9% internationally</i>	

Conceptual framework for tax rate

Equity and fairness:

This principle was found to have no noticeable effect on the tax rate of a sugar tax system.

Simplicity and certainty:

This principle was found to have no noticeable effect on the tax rate of a sugar tax system.

Efficiency and low administrative costs:

If the tax rate aims to ensure compliance with the principle of efficiency and low administrative costs, it must be implemented at a rate that ensures at least a 10% increase in the price of beverages. If the pass-through rate of 47% is assumed, as mentioned in Section 3.5.4.3, it implies that a sugar tax rate of 21,3% should be implemented.

Transparency and accountability:

This principle was found to have no noticeable effect on the tax rate of a sugar tax system.

5.2.2.5 Key element: Tax period and administrative provisions

<i>Options available:</i>		
Excise tax filed monthly using existing tax infrastructure	Excise tax filed quarterly using existing tax infrastructure	Filed together with VAT return
√		

√ = *Most common option used internationally in sugar tax systems*

Conceptual framework for tax period and administrative provisions

Equity and fairness:

This principle was found to have no noticeable effect on the tax period and administrative provisions of a sugar tax system.

Simplicity and certainty:

If a sugar tax system wants to achieve simplicity and certainty with regard to the tax period and administrative provisions, it should implement the sugar tax using existing tax infrastructure.

Efficiency and low administrative costs:

If a sugar tax system is to be compliant with efficiency and low administrative costs, existing tax infrastructure should be used for the administration of the sugar tax.

Transparency and accountability:

This principle was found to have no noticeable effect on the tax period and administrative provisions of a sugar tax system.

Although some of the principles contradict one another, legislators must decide which principles are more important to them with regard to the key elements that are implemented.

5.2.3 To what extent does the South African sugar tax system meet the requirements of the conceptual framework of a good sugar tax system?

The South African sugar tax system was evaluated in Chapter 4, based on the conceptual framework that was developed in Chapter 3. The key elements of the South African sugar tax system's compliance with the various principles were found to be either non-compliant, partially compliant, or compliant. The findings of the South African sugar tax system follow.

5.2.3.1 Design type**Equity and fairness:**

If a government strives to achieve equity and fairness with its design type, the tax-free threshold approach must be implemented. In this regard, the South African sugar tax system was found to be compliant. The South African sugar tax system implements a tax-free threshold of four grams of sugar per 100ml.

Simplicity and certainty:

If a government strives to achieve simplicity and certainty with its design type, a sugar tax in the form of a flat levy should be implemented. This will simplify the implementation of the tax

and will also provide certainty to taxpayers. It was found that the South African sugar tax system is non-compliant since the South African sugar tax system implements a specific excise tax, as well as a tax-free threshold. However, it can be concluded that the implementation of a tax-free threshold is implemented to not only adhere to the principle of equity and fairness but also to attain the overall objective of the sugar tax, which is to decrease sugar consumption. This is because of the fact that a tax-free threshold provides an incentive to manufacturers to reformulate their products to eventually contain less sugar and thereby decrease consumers' sugar consumption.

Efficiency and low administrative costs:

If a government strives to implement a sugar tax system that is efficient and has low administrative costs, a tax-free threshold must be implemented and revenue generated from the sugar tax should be earmarked for health-promotion initiatives. It was found that the South African sugar tax system is compliant with the requirement of a tax-free threshold but non-compliant with regard to the earmarking of revenue since South Africa has not specifically earmarked the sugar tax revenue for health-promotion initiatives and no evidence was found that they plan to do so in the near future.

Transparency and accountability:

With regard to a sugar tax system that is transparent and ensures accountability, a government should consult all stakeholders before the implementation of such a tax and must commit itself to the regular review of the sugar tax system. The South African sugar tax system was found to be partially compliant since the South African government embarked on an extensive consultation process. However, the government has not committed to review the sugar tax system as a whole on a regular basis; it has only undertaken to review the tax-free threshold on a regular basis.

Conclusion: The South African sugar tax system's key element of design type is only partially compliant with the conceptual framework of a good sugar tax system.

5.2.3.2 Taxable unit

Equity and fairness:

If a government strives to achieve equity and fairness, the sugar tax system should tax the manufacturers of SSBs. In this regard, the South African sugar tax system does indeed tax the manufacturers of SSBs and is therefore fully compliant with this principle.

Conclusion: The South African sugar tax system's key element of taxable unit is compliant with the conceptual framework of a good sugar tax system.

5.2.3.3 Tax base

Equity and fairness:

If the tax base is to be equitable and fair, it should include all non-alcoholic SSBs containing added sugar but should exclude pure fruit juices and milk products. The South African sugar tax system was found to be compliant since it includes non-alcoholic SSBs containing added sugar, excluding pure fruit juices and milk products.

Simplicity and certainty:

If the tax base is to be simple and certain, there should not be complex exemptions from the tax base and it should also include all products containing sugar. In this regard, the South African sugar tax system was found to be non-compliant. The South African sugar tax system contains exemptions from its tax base and does not include all products containing sugar.

Efficiency and low administrative costs:

If the tax base aims to ensure efficiency and low administrative costs, the tax base should be extensive to include all products containing sugar, specifically pure fruit juices and milk products with regard to SSBs. The South African sugar tax system was found to be non-compliant, as the South African sugar tax system does not include all products containing sugar and also exempts pure fruit juices and milk products from the scope of the sugar tax.

Conclusion: The South African sugar tax system's key element of tax base is only partially compliant with the conceptual framework of a good sugar tax system.

5.2.3.4 Tax rate

Efficiency and low administrative costs:

If the tax rate wants to ensure compliance with the principle of efficiency and low administrative costs, it must be implemented at a rate that ensures at least a 10% increase in the price of beverages. If the pass-through rate of 47% is assumed, as mentioned in Section 3.5.4.3, it implies that a sugar tax rate of 21,3% should be implemented. The South African sugar tax system was found to be compliant since the South African sugar tax system is implemented with a tax rate of 10% and has shown an approximate increase of 10% in the prices of SSBs.

Conclusion: The South African sugar tax system's key element of tax rate is compliant with the conceptual framework of a good sugar tax system.

5.2.3.5 Tax period and administrative provisions

Simplicity and certainty:

If a sugar tax system wants to achieve simplicity and certainty with regard to the tax period and administrative provisions, it should implement the sugar tax using existing tax infrastructure. In this regard, the South African sugar tax system is compliant since it utilises existing tax infrastructure.

Efficiency and low administrative costs:

If a sugar tax system is to be compliant with efficiency and low administrative costs, existing tax infrastructure should be used for the administration of the sugar tax. The South African sugar tax system was found to be compliant because the South African sugar tax system is implemented utilising existing tax infrastructure.

Conclusion: The South African sugar tax system's key element of tax period and administrative provisions is compliant with the conceptual framework of a good sugar tax system.

Finally, it can be concluded that the South African sugar tax system is only partially compliant with the conceptual framework of a good sugar tax system and has room for improvement. However, it was found that some of the principles contained in the conceptual framework for

a good sugar tax system contradict one another, and in order to determine whether a sugar tax system is a good tax system, the objective of the tax must be considered. Since the objective of the South African sugar tax system is to reduce the consumption of sugar, it can be said that the principle of efficiency and low administrative costs must outrank the other principles. Based on the evaluation of the South African sugar tax system, all the key elements do not comply with the principle of efficiency and low administrative costs. Therefore, the South African sugar tax system is not a good tax system.

5.2.4 If the South African sugar tax system does not qualify as a good tax system, what does a good sugar tax system for South African entail?

After the evaluation of the South African sugar tax system was performed in Chapter 4, it was concluded that the South African sugar tax system is not a good tax system. The South African sugar tax system is not regarded as a good tax system because the key elements of design type and tax base are only partially compliant with the conceptual framework of a good sugar tax system. In order for the South African sugar tax system to be more compliant with the principles of a good sugar tax system, adaptations must be made. With regard to the design type, it was found to be non-compliant with the principle of simplicity and certainty and only partially compliant with the principle of efficiency and low administrative costs.

Firstly, with regard to the design type's compliance with the principle of simplicity and certainty, the conceptual framework recommends that a flat levy should be implemented on all SSBs. However, it was previously determined that the principle of simplicity and certainty is sacrificed in order to achieve equity and fairness and to partially achieve efficiency and low administrative costs of the design type by rather implementing a specific excise tax with a tax-free threshold. By implementing a tax-free threshold, the manufacturers of SSBs are incentivised to reformulate their products to contain less sugar. By lowering the sugar content, the ultimate objective of the sugar tax, which is to decrease sugar consumption among consumers, is promoted. It therefore must be decided which principle of the design type is most important to the South African government before it can be decided whether the key element of the sugar tax system is appropriate.

Secondly, with regard to the design type's compliance with the principle of efficiency and low administrative costs, the revenue generated from the sugar tax should be earmarked for specific

health-promotion initiatives. Once this is done, the public will most likely be more supportive of the tax, which in turn will promote its sustainability in the long run. In addition, the sugar tax system should also be reviewed by the government on a regular basis to ensure that it is still attaining its objective of reducing sugar consumption among consumers if the design type is to be fully compliant with the principle of transparency and accountability. If the sugar tax system is not reviewed on a regular basis, there is no safeguard to ensure that the sugar tax is the right policy tool to address the obesity problem in South Africa.

With regard to the tax base, it was found to be non-compliant with the principles of simplicity and certainty, and efficiency and low administrative costs. The tax base is non-compliant with the principle of simplicity and certainty because the tax base contains exemptions for pure fruit juices and milk products. The exemption of pure fruit juices and milk products was done in order for the tax base to be compliant with the principle of equity and fairness. This is because of the fact that pure fruit juices and milk products provide nutritional value, whereas other SSBs do not. However, by excluding pure fruit juices and milk products from the tax base, it is highly likely that the substitution effect will occur, which in turn causes the tax base to be non-compliant with the principle of efficiency and low administrative costs. Again, there is a trade-off between the principles. By not complying with the principle of efficiency and low administrative costs, the effect of the sugar tax is mitigated, which in turn prevents the sugar tax from achieving its objective, which is to lower consumers' sugar consumption. It must be recognised that trade-offs often occur, but the trade-offs must be in line with the South African tax policy, as well as the overall objective of the tax. Therefore, the South African government must consider which principle is regarded as more important, as well as the objective of the sugar tax, before it can be decided whether the key elements of the sugar tax system are appropriate.

5.3 FINAL CONCLUSION AND CONTRIBUTIONS

From the research conducted, it was found that the South African sugar tax system is not a good tax system and requires some amendments for it to be compliant with the conceptual framework of a good sugar tax system. It was important to determine whether the South African sugar tax system is indeed a good tax system because there is a need to implement a tool that is able to address the obesity epidemic. Since the South African sugar tax system is not yet regarded as a good tax system according to the research conducted, its lifespan will likely be

short-lived. Although trade-offs between the principles of a good tax system are practically inevitable, it must be ensured that the South African sugar tax system is a good tax system in order for it to be sustainable in achieving its objective of decreasing sugar consumption by consumers.

5.4 RECOMMENDATIONS

If the objective of the South African sugar tax system is considered, which is to decrease the consumption of sugar, it is recommended that the key elements of design type and tax base are amended. With regard to the design type, it is recommended that the tax revenue generated by the sugar tax be specifically earmarked for health-promotion initiatives. By earmarking the revenue, it is predicted that the public's support for the tax will increase, which will also make the sugar tax system more sustainable in the long run. The sugar tax system should also be reviewed on a regular basis to ensure that it is still attaining its objective of decreasing sugar consumption.

With regard to the tax base, it is recommended that the tax base be extended to include pure fruit juices and milk products. Although these products provide more nutritional value than SSBs, they also make the prevalence of the substitution effect more likely, which will result in South Africa's obesity problem not being addressed.

5.5 SUGGESTIONS FOR FUTURE RESEARCH

Given the fact that sugar tax systems are still relatively new, there is a need to conduct ongoing research with regard to the efficiency of a sugar tax system as a tool to address obesity. Sugar consumption by consumers and daily caloric intake should be evaluated in order to determine whether a sugar tax system is sufficient to decrease the prevalence of obesity.

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