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School of Accountancy

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A CRITICAL ANALYSIS OF SUGAR TAX IN SOUTH AFRICA

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Commerce (specialisation in Taxation).

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Date: 30 March 2022

DECLARATION

Declaration on plagiarism

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ABSTRACT

Globally the major leading cause of death is associated with non-communicable diseases (NCDs) and increasing in both First and Third World countries, including South Africa. The change from traditional to processed food, more energy-dense food, sugar-based drinks, more added salt, fat and sugar, are all referred to as the ‘western diet’. The transition of the food environment has been associated with individual influences such as behaviors, knowledge and attitudes.

Globally the consumption of sugar-based drinks has increased at an alarming rate and major non-communicable diseases (NCDs) are associated with the excessive intake of sugar. One of the global health risks is obesity. In creating food environments that are healthy, international jurisdictions formulate policies and environmental interventions as an effective tool. Taxes have been employed to stabilise a downturn in the market and change the price, which have affected consumers’ purchasing decisions.

In this report, sugar tax was critically analysed by evaluating the impact of the tax on the market, employment, imports and exports. Several policy design options of taxing sugar-based drinks as formulated and introduced by the World Health Organization (WHO) and The Organization for Economic Co-operation and Development (OECD) were compared. In order to determine the sustainability of the policy design option implemented by South Africa, the policy design option was compared to that implemented by other jurisdictions namely, the United States of America, Mexico and Denmark. The opponents of sugar tax challenged the implementation of initiatives and utilization of income generated from sugar tax in South Africa.

Key words

Obesity, diabetes, non-communicable diseases, sugar, tax, tax policy design, prices, sugar sweetened beverages, revenue, South Africa, United States of America, Mexico, Denmark.

ACRONYMS AND ABBREVIATIONS

BMI	Body Mass Index
DALYS	Disability-Adjusted Life Years
EU	European Union
GDP	Gross Domestic Product
HEALA	Healthy Living Alliance
HPL	Health Promotion Levy
NCD	Non-communicable disease
OECD	The Organization for Co-operation and Development
OMENT	*Observatorio Mexicano de enfermedades no transmisibles* (Mexican observatory on noncommunicable diseases)
OUTA	Organisation of Undoing Tax Abuse
PAN	Partido Acción Nacional
PPM	Pacto por Mexico
PRD	Partido de la Revolución Democratica
PRD	Partido Revolucionario Institucional
SA	South Africa
SARS	South African Revenue Service
SSBs	Sugar-Sweetened Beverages
USA	United States of America
VAT	Value-Added tax
WHO	World Health Organization

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CHAPTER 1 – INTRODUCTION

1.1 Background and motivation

Consumers struggle to deal with sugar for a number of reasons which range from bad health behaviour and poor financial choices. In February 2016, the Minister of Finance introduced in the 2016/2017 tax year budget speech a plan to introduce tax on sugar-sweetened beverages (SSBs). The announcement sought to effect a decrease in the consumption of excessive sugar which is one of the contributing factors to obesity and the threat of non-communicable diseases (NCDs) globally. In April 2018, the Health Promotion Levy (HPL), commonly referred to as sugar tax, was effected (National Treasury, 2016).

There are various reasons consumers are unsuccessful in identifying the link between expenditure and sugar consumption (Colchero et al., 2017:1552-1557).
It can be argued that most of these reasons emanate from high added sugar consumption, nutritional diseases which have long-term health effect, economic and psycho-social outcomes. The risk associated with excessive sugar consumption is obesity which leads to heart disease, type 2 diabetes, strokes, some cancer, and illnesses including tooth decay, particularly in children (Colchero et al., 2017).

WHO (2019) argues that excess sugar increases unhealthy weight gain, heightens risk of diseases such as diabetes, high blood pressure, heart disease and damage to teeth, causing dental caries (cavities). Furthermore, poor diet contributes to the burden of NCD (Colchero et al., 2017).
This phenomenon is also highlighted by Spires et al., (2016).

According to a Policy Paper published by the National Treasury (2016), together with the Department of Health dated 8 July 2016, sugar tax was later formulated as a segment of the Strategic Plan of the National Department of Health Prevention and Control of Obesity from 2015 – 2020 (2015) and that of National Strategy for the Prevention and Control of NCD from 2013 – 2017 years (2013).

An ambitious target was included in the strategies to reduce the predominance of obesity in 2020 by 10%. According to the National Strategy for the Prevention and Control of NCD, it has been recognised that introducing taxes on high sugar content foods is an effective strategy to reduce diseases related to the consumption of foods (National Treasury, 2016:2).

There are a number of risk components recognised in the Department of Health strategy (2015). The disproportionate intake of sugar from sugar-sweetened beverages (SSB) and high calories contained in energy-complex foods, were the main accelerating factors in children and adults gaining weight. SSBs are energy-dense drinks that do not contain nutritional benefit, provide low satiety and inadequate reparation for total energy. SSBs are digested differently in the human body as compared to foods that are plant-based. Vegetarian and vegan diets result in lower risk of premature mortality, pulmonary diseases, cancer, hypertension, type 2 diabetes and obesity (Spotlight, 2019:202).

The WHO has encouraged governments to implement various initiatives and strategies to enhance the accessibility and convenience of healthy foodstuffs, thereby positively impacting on the food choices that people undertake. However, taxing sugary beverages with the objective of decreasing high sugar consumption was a primary initiative by governments (Francis et al., 2016:1-3).

Leaders of states and governments dedicated themselves in the United Nations Political Declaration on NCDs (WHO, 2013) to create and reinforce multi-industrial national strategies and programmes for the deterrence and regulation of NCDs. Governments included the expansion of national goals that were established in 2013 (WHO, 2013).

In South Africa, such plans were intended (National Treasury, 2016:5) to:

> Create incentives to encourage behaviours associated with improved health outcomes; Improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.

In May 2013, the World Health Assembly ratified the WHO Global Action Plan for the Prevention and Control of NCDs 2013-2020 (WHO, 2013: 30-41). The member states,

WHO, and international partners were encouraged to adapt the programme and plan options as stipulated in the Global Action Plan. According to WHO, the programme and plan options would when introduced between the period of 2013 and 2020 contribute to advancement on nine global NCD targets to be achieved in 2025 (WHO, 2013:30-41).

Various countries were encouraged by the World Health Organization to introduce sin taxes on products with high added sugar content. The objective of the sin taxes was to reduce the increasing rate of the obesity pandemic globally (WHO, 2017:30-41).

Subsequently, sugar taxes gained popularity globally. Several sugar tax systems were introduced; however, it is not clear whether these tax systems have been effective in reducing the obesity pandemic or are maintainable in future. A tax system, to be maintainable, should conform with the principles of a comprehensive tax structure. The principle of a broad-spectrum regime has not yet been implemented in a sugar tax system (Lombard et al*.,* 2020:65).

Smith (1776) argued in his book *The Wealth of Nations* that a comprehensive tax structure should conform with four principles known as the four canons or maxims, that is, “fairness” also referred to as “equality”, “certainty”, “convenience”, and “efficiency”. “Fairness, in that taxation should be compatible with taxpayers' conditions, including their ability to pay in line with personal and family needs”. The first canon, that of equality, was stated as follows:

> The subjects of every state ought to contribute to the support of the government, as nearly as possible, in proportion to revenue which they respectively enjoy under the protection of the state. In observation or neglect of this maxim consists, what is called the equality or inequality of taxation (Smith,1776: V.II.II).

Several countries have introduced a taxation on SSBs. There was an increasing concern by the authorities in these countries that SSBs were negatively impacting the health of the people. Annexure II indicates countries that have implemented sugar tax and the dates.

The development of NCDs was associated with the intake of SSBs. Pulmonary diseases, hypertension, type 2 diabetes, cancer, cholesterol and obesity are diseases that are instigated by the high intake of SSBs (National Treasury, 2016:11).

Regions such as South America, Europe and North America have initiated taxes on SSBs. The taxes were introduced using structures and bases that impacted each country differently. Annexure III indicates various designs of international sugar tax structures and elements of a good tax structure (National Treasury, 2016:11).

In February 2019, the Minister of Finance stated in the 2018/2019 tax year that a profit of R2.7 billion was achieved from sugar tax in South Africa in less than a year since it was introduced, as indicated by the National Treasury figures. According to the Treasury, approximately R50-million was allocated to the Department of Health for “health promotion” interventions in early 2018. Most of the funds were allocated to the department's cancer campaign (National Treasury, 2016:2).

With regard to government spending, R229.7 billion was budgeted for health, R309.5 billion was allocated to social development, and R396.4 billion was allocated to learning and culture. The government functions that were mostly developing and allocated large budgets over the 2018 middle period were community development, economic development, and social development (National Treasury, 2019).

Products such as energy drinks, ice-tea, carbonated drinks, dilutable beverages and juices form a major part of the non-alcoholic beverage trade in South Africa. The multinational beverage companies have a substantial market share and dominate this industry. There was an upsurge in the non-alcoholic beverage trade from the 1990s. The non-alcoholic beverage industry advanced due to the increase in the acceptability, availability, and affordability of the products. According to market research (Baloyi, 2016), lower-income communities consumed a higher share of SSBs.

Children and adults are recommended to limit consumption to below 10% of total energy consumption per day, according to WHO guidelines. This would be equivalent to 50 grams, about 12.5 teaspoons of sugar. The WHO suggested that there would be added health advantages if there was a further decrease to under 5% of total energy

consumption per day. This is approximately 6 teaspoons or 25 grams of sugar (WHO, 2013:8-41).

According to WHO (2013:8-41), based on global standards, the introduction of sugar tax has the following benefits:

> Taxes on sugary drinks help reduce consumption and prevent obesity. Taxation on sugary drinks is an effective intervention to reduce sugar consumption. Evidence showed that a tax on sugary drinks that raised prices could lead to a reduction in consumption, thus preventing obesity and diabetes.

Healthcare saving also accrue (WHO, 2013:8-41):

> Globally, from 2011 to 2030, losses in gross domestic product worldwide due to diabetes, including both direct and indirect costs, are expected to total US$ 1.7 trillion, US$ 900 billion in high-income countries and US$ 800 billion in low- and middle-income countries.
>
> Revenues raised from taxes could be used to promote the health of the population. Revenue generated by these taxes should be spent on efforts to improve health care systems, encourage healthier diets, increase physical activity, or build capacity for effective tax administration, further increasing the value of this measure.
>
> Low-income consumers and young people receive the greatest health benefits from taxes (WHO, 2013:8-41).

The improved tax models are employed to determine whether a sugar tax structure is an appropriate instrument to challenge obesity (WHO, 2013:8-41).

Internationally, health promotional taxes were employed and premised on fact that the manipulation of prices can alter the consumer's behaviour. Those who opposed the HPL state that more substantial relative impact on the poor and excessive sugar usage did not cause adverse health conditions (Schneider, 2020).

In the 2018-2019 financial year, The SA Canegrowers Association (SACA) argued that the HPL had cost the sector R925-million. In February 2014, the Democratic Alliance (the official opposition party in South Africa) also argued that more than 1,000 jobs were lost as a result of the HTL. Furthermore, an argument arose that 350,000 jobs in

the sugar industry were in jeopardy as a result of the tax on SSBs. The political party requested a suspension on the levy in Parliament (SA Canegrowers Association, 2019).

The National Department of Health and the South African Revenue Service argued that the health of lower socio-economic communities improved as a result of higher prices that influenced a decreased intake of sugar-sweetened beverages (Stacey et al., 2017).

The reduction in sugar intake relieved the strain caused by obesity on government resources, for example public clinics. The HTL income generation could be applied to health care of the nation. As of 31 December 2018, revenue of R2.3 billion was collected despite the decline in several tax collections as in the 2018 financial plan (National Treasury, 2019).

According to Schneider (2020), on 1 April 2019 the rate of sugar tax increased due to resilience against collecting its revenue while other tax rates did not change. The increase supported the fiscal view that HTL was a revenue producing tool, rather than a regulating behavioural tool or a health promotional tax (Schneider, 2020).

Notwithstanding, the intake of sugar-sweetened beverages was not influenced by the introduction of a tax structure with the objective of regulating behaviour (Schneider, 2020).

The opponents of sugar tax also argued that as the extent of the challenge was presented, the policymakers expanded the incidence of NCDs rather than eliminating it at its source. A question was posed as to why the government resorted to taxing the already burdened consumers. In order to alleviate the burden placed on individuals, it was suggested that the government should alter the agricultural policy and transmit subsidies to permit processed foodstuffs to be less affordable and whole, healthy foodstuffs more affordable. However, if it was not feasible to implement, taxes should be placed on the producers and distributors of these foodstuffs. A vast industry complex was built up making cheap processed foods from sugar, and it was preferred

by those businesses to pass the costs on to consumers rather than assume the challenge themselves (Fessenden, 2018).

1.2 Basis for the country selection

The United States of America, Mexico and Denmark were selected in order to conduct a comparative study of countries that have introduced a sugar tax, ranked high in the incidence of obesity, and have implemented measures and policies to reduce the rate of obesity in their countries. Further, to compare countries that introduced sugar tax and those that abolished the tax.

The basis for the selection of these countries and inclusion in the research report are stated below.

Annexure II indicates countries that implemented sugar tax and the dates that sugar tax was introduced.

NCDs reached crisis levels in the selected countries with some NCDs being responsible for more than half of deaths. People were consuming more sugar than their daily energy intake. WHO guidelines state that:

> to prevent obesity and tooth decay, adults and children reduce their consumption of free sugars to less than 10% of their daily energy intake equivalent to around 12 teaspoons of table sugar for adults (WHO, 2013:8-41).

South Africa, USA, Mexico and Denmark applied fiscal policies to improve public health levels. The countries were reacting to the negative health effects of SSBs imposed. However, in other countries fiscal polies were implemented to generate revenue, for example Denmark as well. The process was aligned according to WHO guidelines to use taxes and subsidies to reduce obesity.

Mexico in 2011 was identified worldwide as a country that consumed the largest quantity of SSBs. The first country to implement a considerable tax on SSBs in South America was Mexico in 2014. USA experienced a decline in sales after introducing sugar tax, yet it remained the fourth highest consumer of SSBs. South Africa was rated high in obesity in Sub-Saharan Africa.

USA and Mexico adopted similar policy designs for their sugar tax systems. Taxes on SSBs had various structures and bases and impacted each country differently. Annexure III indicates the various designs of international sugar tax systems.

Several countries, including Denmark and Norway, introduced sugar tax in the 1920s and 1930s, as a fiscal gauge to produce income. In 2016, there was a creation of taxes with enactment in over 40 countries globally. The introduction of sugar taxes has been widely applied as a fiscal policy to produce general government income, and as a health policy to decrease intake of SSBs. Revenue collected from sugar tax was progressively dedicated to strengthening health promotion efforts.

SSB taxes were supported by nutrition experts and health organizations globally such as WHO, as health policies were formulated to address NCDs by reducing excessive sugar consumption. Furthermore, sugar tax was implemented to encourage manufacturers to reformulate their products by reducing the content of sugar. This increased community's' cognizance of excessive sugar intake, and generated income that was ploughed into social and health programmes (Fernandez et al., 2019).

The sugar and more particularly the SSB industries were affected and contended that the tax increase, by reducing sales, would cause substantial employment loss for employees who manufactured, distributed and sold SSB products (Chaloupka *et al.* 2019:193).

Denmark implemented tax on sugar in the 1930s. Denmark was concerned about the increasing rate of obesity and NCDs in the country. Revenue collection increased but there was an insignificant change in the consumption rate of the SSBs products. This contributed to Denmark eliminating sugar tax (Petkantchin, 2018:1-3).

Denmark introduced various other taxes, such as a 'fat tax', referred to as nutritional taxes, as a measure to improve health and to decrease the intake of saturated fats. In 2011 it was the first country to introduce a fat tax. The tax was abolished less than a year after it was implemented, due to its negative consequence, having made little impression on consumer behaviour (Petkantchin, 2018:1).

Denmark's experience of introducing various taxes raised the concern whether sugar tax should be utilised to reduce obesity.

1.3 Research problem

1.3.1 The statement of the problem

This research will evaluate and analyze the administration, approach and the impact sugar tax has had on the selected countries. These will be compared to the sugar tax structure as adopted by South Africa.

1.3.2 Sub-problems

The following four sub-problems arise, namely:

Sub – problem 1:
Which policy design did SA adopt to implement sugar tax?

Sub-problem 2:
What is the impact of sugar tax in the United States, Mexico and Denmark?

Sub-problem 3:
Which factors have led to other countries abolishing sugar tax?

Sub-problem 4:
Does sugar tax function as intended and are the objectives achievable in South Africa?

1.4 Research methodology

The research method adopted is qualitative and interpretive, based on a detailed interpretation and analysis of the literature below. An extensive literature review and analysis was undertaken that included the following sources:

- Books
- Case law
- Electronic databases

- Electronic resources – internet
- Journals
- Magazine articles
- Other publications
- Statutes.

1.5 Conclusion

This chapter highlighted the four countries which implemented sugar tax and they were contrasted in terms of their implementation. The problem statement together with the objectives and research methodology were highlighted.

CHAPTER 2 - SUGAR TAX IN SOUTH AFRICA

2.1 Background

Obesity is a worldwide pandemic and a substantial risk element for the growing burden of NCDs, including stroke, heart diseases, some cancers and diabetes. Internationally, obesity is accountable for deaths while the use of tobacco, high blood pressure, induced blood glucose and alcohol are negatively impacting on the world health system (WHO, 2015: 43-49).

The body mass index (BMI) is derived from the relationship between weight and height in metric units. It is used to measure the prevalence of obesity and excess weight. A person is classified as being obese if the BMI level is 30 or more and classified as overweight if the BMI level is 25 or more. In South Africa there has an upsurge of obesity in the past 30 years (National Treasury, 2016:4). In fact, the South African population has been rated the most obese in sub-Saharan Africa, and second and third most obese in Africa as a whole (National Treasury, 2018).

The challenge of obesity in South Africa has been developing over the past 30 years and is tiered sixth as a risk element for premature death and years of life lived with disability, or disability-adjusted life years (DALYS). Therefore, a need has arisen for a corresponding multi-sectoral method to counteract and regulate the upsurge of obesity in the country (National Treasury, 2018).

The decision to regulate obesity was made due to the increasing concern regarding obesity in South Africa (National Treasury, 2018).

In April 2018, the first country on the African continent to implement sugar tax was South Africa, after Mexico and other countries proved successful in imposing a similar levy (Green, 2018).

2.2 What is obesity?

According to WHO, “[being] overweight and obesity occur when more energy is consumed than is spent measured in calories”. Energy-dense diets are those that have increased fat and sugar and result in obesity and being overweight. These diets and the intake of free sugars in the form of SSBs are related to the weight gain in adults and children. The intake of SSBs is the major cause of dental caries in children over the age of 5 years (WHO, 2015:10-13).

The total energy content of a product is enhanced by adding sugar. However, there are natural sugars that are found in many foods including milk and fruits that can be consumed as a healthy option (WHO, 2012).

SSBs are not nutritional and contain superfluous calories. Fluid sugar is digested differently in human bodies as compared to sugar in foods, particularly foods that are rich in fibre, for example, fruits. Fibre is digested more slowly than liquids, and thus the sugar is released more slowly into the bloodstream (Lillis, 2019)

Additional sugar in fluid form goes into the vital organs in greater quantities that the body can cope with. The process results in overloading the pancreas and liver, which causes liver disease, heart disease and diabetes. The human body responds to the discharge of sugar by generating triglycerides, which are fat globules deposited in the liver or distributed into the bloodstream. These globules can line the arteries and increase the risk of heart attacks (van Walbeek, 2019:18).

Sugar intake is required in the human body as it offers energy to the muscles, it acts as a basis of energy for the nervous system and the brain, assists with the metabolism of fats and shields the body from utilising protein as a source of energy. Energy is created when glucose is catalysed and this chemical reaction energises the red blood cells. The insulin hormone is released during the consumption of sugar and activates the red blood cells for glucose absorption and enables the body to utilise glucose as energy. Healthy levels of insulin are needed for the human body to function. Lower levels of insulin may cause diabetes. However, added sugar is not healthy and not required in the human body (Freeman et al., 2018)

2.3 Why a sugar tax in South Africa?

Smith (1776) stated in his book *The Wealth of Nations* as follows:

> By necessities, I understand not only commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people even of the lowest order, to be without… All other things I call luxuries… Nature does not render them necessary for the support of life, and custom nowhere renders it indecent to live without them (Smith,1776: V.II.II).

According to Smith (1776) added sugars are luxuries and "not a necessary of life", similarly, SSBs are not a necessity of life and classified as luxuries.

The sugar tax was one of the primary interventions advocated by the World Health Organization. According to the WHO (2013:32) Global Action Plan for the Prevention and Control of NCDs, sugar is a substantial trigger of obesity as per its consumption. Consumption of sugar was anticipated to decrease with the implementation of sugar tax, which consequently would enhance consumers' health and avert obesity (WHO, 2013:32).

SSBs were intricately linked with the emerging obesity pandemic and several taxes on sugar that were introduced globally focused on their reduced consumption. Tax on sugar was therefore implemented in a form of excise tax in South Africa (Lombard et al., 2020:65).

However, South Africa is not new to the history of tax on sugar-added drinks. Originally, South Africa charged tax on mineral water and SSBs in the years before 1 April 2002. The tax was levied on a per litre or volume basis. It was not associated with externalities or any objective related to health benefits. Instead, the tax was structured to increase revenue. However, it was eliminated through petitioning by the non-alcoholic beverage industry. It was eliminated as of 1 April 2002, and an income amounting to approximately R135 million was lost to the fiscus (Baloyi, 2016).

As noted, the sugar tax was eliminated in April 2002 after nine years, following industry politicisation. It was imposed to generate revenue. However, due to the increase of obesity prevalence, tax on SSBs was reinstated in April 2018. The primary reasons for reinstating the tax included the increasing health crisis instigated by the excessive

intake of SSBs, and the decreased demand and intake of SSBs through the price flexibility (Schneider, 2019).

2.4 Pre-implementation of sugar tax

2.4.1 South African SSB market

According to the National Treasury Policy Paper on sugar-sweetened beverages (National Treasury, 2016:6), market interventions by the South African government are mainly categorised in three various forms, namely, “appropriate regulations”, “information strategies” and “price instruments”, or these mechanisms combined.

Fiscal methods in previous years have been globally acknowledged as credible interventions to confront the obesity pandemic at a population stage. The fiscal methods were fundamental elements of detailed interventions to enhance diets and avert NCDs (National Treasury, 2016:6).
According to WHO, the major fiscal policy interventions for NCD prevention were “taxes on SSBs [and on] unhealthy nutrients (saturated/trans-fats, salt and sugar)” and/or “unhealthy foods (defined through nutrient profiling)”, and “subsidies on fruits … vegetables and/or other healthy foods” (WHO, 2015:12).

The essentials to the consequence of fiscal policies on diet and the fundamentals of price elasticities include, ”demand for SSBs is generally elastic”, “price elasticity is higher among low-income consumers, in younger people and people with overweight, which is correlated with income”, and “high consumers of SSBs are also likely to be more price-responsive” (WHO, 2015:12).

In South Africa, tax on SSBs was part of the strategic fiscal intervention introduced to address obesity (National Treasury, 2016:6). There is a solid health and economic justification for applying fiscal implements. As a mechanism, fiscal policy intervention was applied to impact the behaviour of consumers at the stage of purchase, to alter the intake of these foods at the consumer and household stages, and to decrease the risk elements for NCDs associated with diet (WHO, 2015:12).

In February 2019, the Minister in his budget speech pronounced an increase of 10% on sugar tax of SSBs from 2.1 cents to 2.21 cents per gram of content of sugar that is above 4 grams per 100ml. The increase appeared to be an inflation adjustment as per the National Treasury (2016). The first 4 grams per 100 ml remains free from levies. The increase was criticized in the media by the beverage and sugar sector, based on the severe impacts it had already shown since its introduction in April 2018 (National Treasury, 2018).

Consumers were encouraged to decrease their demand as the prices of SSBs increased due to taxes, which could result in low production levels or adjustments to product formulations. The degree of this influence was supported by amongst others the demand for price elasticity, the extent to which retailers and manufacturers filtered down the tax to consumers, and the possible replacement consequences (National Treasury, 2016:10).

According to the National Treasury (2016), the following elements should be considered when introducing sin taxes as an instrument to correct a behaviour namely:

- “The impact on the poor”.
- “The regressive tax”.
- “The price elasticity of demand for sugar-sweetened beverages, especially for lower income earners”.
- “The substitution effect, that is where consumption is shifted to unhealthy options and unhealthy sugar substitutes”.
- “The actual ratio of sugar intake through sugar sweetened beverages consumption to total sugar intake”.
- “The impact on job losses” and
- “The impact of other non-sugar sweetened beverages and unhealthy products on obesity.”

Sugar tax in South Africa is an indirect tax and administered as an excise tax, which occasionally is named a sin tax. The SARS announced on 15 December 2017 that from 1 April 2018 the Sugary Beverages Levy (SBL) would be collectable. According

to SARS the levy was promulgated in Parliament on 5 December 2017, listed under the Rates and Monetary Amounts and Revenue Laws Amendment Bill, 2017 (National Treasury, 2016:10).

The provision for the health promotion levy on sugary beverages manufactured in or imported into South Africa is included in Part 7A of Schedule No.1 of the Customs and Excise Act, 1964. The duty at source principle was applied to mean that the imported products are taxed when made ready for household consumption and the products that are locally manufactured taxed at their source (Customs and Excise Act 91 of 1964).

Mill (1985) stated that:

> Indirect taxes are those that are required from one person in the anticipation and the intention that he shall compensate himself at the expense of another, such as the excise or customs. The manufacturer or importer of a commodity would be called upon to pay a tax on it, not with the objective to levy a peculiar contribution upon him, but to tax through him the consumers of the commodity, from whom it is expected that he will recover the amount by means of an advance in price (Mill, 1985:175).

According to the Customs and Excise Act, the SSB levy is paid at the factory entrances or the ports of entry. Only commercial producers that produced sugar-sweetened beverages with an annual total sugar content greater than 500 kg per year, would be required to be in possession of a license and be liable for the payment of SBL. Non-profitable manufacturers below this threshold should be registered but would not be liable to pay the SBL (Customs and Excise Act 91 of 1964).

The content of sugar that exceeded 4 grams per 100ml was secured at a levy of 2.1 cents per gram, which translated that the first 4 grams per 100ml were free from levy. The government introduced this levy as part of its programme to deter the increase of NCDs and prevent and control obesity (Customs and Excise Act 91 of 1964).

According to SARS, levies and excise duties are charged mainly on “high-volume daily consumable products” for example alcohol, petroleum, including luxury or specific non-essential foodstuffs such as cosmetics and electronic equipment. The main objective of these levies and duties was to safeguard a continuous generation of income for the government. A secondary objective was to deter the intake of specific harmful products

that were damaging to the environment or to human health. Duties and levies account for approximately 10% of the total revenue received by SARS on collection annually (Customs and Excise Act 91 of 1964).

According to SARS, excise duties are levied all over the Southern African Customs Union (SACU), which consist of the Republic of South Africa, Eswatini (the Kingdom of Swaziland), the Republic of Botswana, the Kingdom of Lesotho and the Republic of Namibia. “Excise duties are levied and payable by the producers of the following products” (Customs and Excise Act 91 of 1964):

- “Ad Valorem Products”.
- “Alcohol Products”.
    - “Malt Beer”
    - “Traditional African Beer”
    - “Spirits / Liquor Products”
    - “Wine and Vermouth”
    - “Other Fermented Beverages”
- “Petroleum Products”; and
- “Tobacco Products”.

Furthermore, in South Africa excise levies are uniquely taxed and separately on various products by each SACU member state on the following (Republic of South Africa, 1964):

- “Air Passenger Tax”.
- “Diamond Export Levy”.
- “Environmental Levy Products”.
    - “Carbon Tax”.
    - “Electric filament lamps”.
    - “Electricity generation”.
    - “Motor vehicle CO_2 emission”.
    - “Plastic bags levy” and
    - “Tyres”
- “Fuel Levy and Road Accident Fund (RAF) Levy on Petroleum Products”.
- “Health Promotion Levy on Sugary Beverages”; and

- “International Oil Pollution Compensation Fund Levy (IOPCF)”.

South African Revenue Service (2018:2-4) states that:

> a) Any person who manufactures sugary beverages on the date these rules come into operation or intends manufacturing sugary beverages must apply on a DA 185 and the appropriate annexure:
> If he or she qualifies as a non-commercial manufacturer, for registration as a non-commercial manufacturer of sugary beverages in terms of Section 59A and the rules thereto; or
> If he or she is classified as a commercial manufacturer:
> A) Register as a commercial manufacturer of sugary beverages in terms of Section 59A and the rules thereto; and
> B) License his or her manufacturing premises as a customs and excise manufacturing warehouse for the commercial manufacture of sugary beverages.
>
> b) Any person who manufacturers, a sugary beverage containing 4 grams per 100ml or less, but the sugar content exceeds the 500 kilograms (Rule 54I.02) per calendar year, will be required to license as a commercial manufacturer and submit ’NIL’ returns (South African Revenue Service, 2018).

According to the National Treasury (2016), part of the key deliberations with the introduction of a design with the coverage as the focus, was outlining the rate, and the base. The excise taxes are specific on foodstuffs in terms of discriminating the intention, coverage, and had a method of quantitative amount associated with the tax liability. Excise tax rates are charged on definite measurements, for example, ad valorem being the part of cost terms and occasionally directed by controls over the manufacture and categorization for administration purposes or cents per gram (National Treasury, 2016:14).

Specific rates, for example, cents per gram were frequently more convenient to control but necessitated frequent revisions or escalations in the rate, to be on par with inflation. Under-invoicing was a strategy applied to avoid the ad valorem excise duties. The

duties became complex in the absence of an arrangement for the cost of goods at taxation stage. The more affordable and low-quality goods were intentionally launched to destabilize the purpose of tax, to rectify market collapses, which resulted in the complexity of administering ad valorem excise duties. The objective of the government in motivating consumers and producers to change to beverages that contained less sugar was not supported by the option of applying a flat rate per beverage (National Treasury, 2016:15).

Annexure I demonstrate the advantages and shortcomings of the various potential tax design options (National Treasury, 2016:15).

In South Africa, it was considered essential to adjust the specific tax rates annually, to take into account the effect of inflation. The ad valorem tax rate structure, that is the percentage in value, was not implemented as it would not have been aligned to the health outcome objectives. This would have would have undermined the objective of the tax, by introducing cheaper products with that contain high added sugar (National Treasury, 2016:15).

The National Treasury Policy Paper (2016) mentions that the administration of excise taxes was simplified by the duty-at-source (DAS) system. The legal prevalence and the economic prevalence of tax were not essentially similar. Manufactures or importers were legally obligated for payment of taxes to SARS, however, in several occurrences they filtered the tax down to consumers (National Treasury, 2016:15).

According to the National Treasury (2016), excise taxes should be filtered down to the consumers, if the behavioural impact of tax on consumption was desired, otherwise there would be a decrease in the profit surpluses if it was absorbed by the manufacturers. The producers would have been encouraged to redevelop the foodstuffs to decrease the liability for tax. The design structures that were taken into account, the capacity to generate and sustain inducements to alter the conduct and obtain concrete decreases in the intake of SSBs were as follows (National Treasury, 2016:2):

2.4.1.1 Scope of the Tax

The WHO defined “free sugars as monosaccharides like glucose, fructose and disaccharides such as sucrose or table sugar-added to foods and drinks by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates” (WHO, 2015:4).

“Monosaccharides have one sugar molecule and include glucose, galactose and fructose. Disaccharides have two molecules. The most widely consumed disaccharide is sucrose or table sugar” (Mann, 2014:780).

These monosaccharides excluded the sugar that was built naturally into the composition of foods or the sugar that was naturally existing in food products. Therefore, any drink with a natural sugar content included in the structure of the ingredients was excluded and not subjected to tax. The products included were foods such as “100 per cent fruit juice”, “milk products” and “unsweetened milk” (National Treasury, 2016:16).

2.4.1.2 Tax Base

According to the National Treasury, the policy for SSB tax rate system was based on the content of sugar, which created a benefit that supported and focused on the objectives of government’s public health policy. The SSB sugar levels in equal proportion to tax would result in beverages containing less sugar (National Treasury, 2016:3).

A tax equal in proportion to SSB sugar level would result in an impact on beverages with less sugar content. The manufacturers would have been motivated to modify their products resulting in a decrease in excessive intake of free sugars (National Treasury, 2016:3).

2.4.1.3 Rate of tax

The National Treasury Policy Paper discussed above further states that if a specific rate of tax was introduced, the rate of cents per gram should be adjusted annually to accommodate the rate of inflation. A suitable price reference was key as a beverage

that is popular or weighted average approach could have been utilised. There were tax rate options that were being explored in South Africa (National Treasury, 2016:3):

2.4.1.4 Flat levy

The flat levy on SSBs translated to the fact that a similar rate was applicable based per litre on all the SSBs irrespective of the level sugar. The approach would not have encouraged the consumers to reduce consumption, or producers to modify their products or to decrease their liability for tax by moving to SSBs with less sugar content. There was a consideration, however, that in comparison with other approaches, the approach would have been easier to administer. This resulted in tax on sugar being an income-producing tool unrelated to the externality linked with variances in sugar contained in SSBs (National Treasury, 2016:18).

2.4.1.5 Tax on sugar content

The approach took into account that SSBs contained no nutritional benefit but contained high levels of sugar. The approach meant that tax was to be applied to each gram of sugar contained in SSBs. The approach was implemented by for example Mauritius which taxed every gram of sugar contained in non-alcohol drinks, with 100 percent fruit juices not included (National Treasury, 2016:18).

2.4.1.6 The threshold design option

According to the threshold approach, the additional content of sugar above the threshold would be subject to tax while the minimum content of sugar would be tax-free. The determined threshold encouraged the manufacturers to modify towards the products containing less sugar. Various countries including the United Kingdom adopted this approach and implemented an allowance that is free of tax being “5 grams of sugar per 100ml” translating to “50 grams of sugar per litre” (National Treasury, 2016:18).

2.5 Post implementation of sugar tax

According to the Budget Review 2019/2020 financial year, the revenue generated from taxes was overburdened by the country's depreciating economy. There was a deficit of R42.8 billion as compared with the budget estimate in 2018. The receipts from corporate income tax and personal income tax subsidised the depreciating economy. Administrative shortfalls in collections were additional elements in the challenge. The huge tax income shortage and developing cost burdens necessitated additional tax strategy and expenditure intervention. In the framework of economic shortfall, the 2019 tax budget was structured to reduce the effect of the declining growth. In the intermediate period, to improve the fiscal establishment tax strategy regulations were implemented as required (National Treasury, 2020).

According to the budget review 2020, under the spending programmes, the Government allocated a substantial amount to improve and develop the livelihood of the people of South Africa. An amount of R396.4 billion was allocated to the Department of Higher Education and Training and the Department of Sports, Art and Culture, an amount of "R309.5 billion to the Department of Social Development and the amount of R229.7 billion to the Department of Health (National Treasury, 2020).

According to Sikuka (2019:1) the sugar industry has also reported on the devastating effect of sugar tax. According to the SASA (2019) and the Sugar Canegrowers (2019) sugar tax ensued in an over 30 percent reduction in the amount of sugar sold to the beverage sector since April 2018. The reduction in demand of domestic sugar had consequently ensued in an increase of sugar exports from South Africa, albeit at a lower price.

Notwithstanding the high global prices, South Africa continued to export the excess sugar at a loss. The reason was that the income generated from the export and local markets of sugar sales formed the basis of the cane price paid to sugar cane growers. The rule was stipulated as part of the domestic sugar regulations (Sikuka, 2019:1).

The sugar cane farmers were challenged in that at least 10,000 sugar cane farm jobs were lost and that some farms were unable to survive. Similarly, sugar milling companies were also under profitability strain due to this revenue loss (Sikuka, 2019:2).

Sikuka (2019:2) mentioned that the sugar tax was indisputably regarded as a revenue generator for the overly burdened South African budget. The Ministry of Health was additionally a strong supporter of the tax as part of the various policy instruments to address non-communicable diseases including obesity, diabetes, stroke and heart disease.

There were sentiments that while the sugar tax may have had negative impacts since April 2018, the sugar industry was already in decline due to low margins, low global sugar prices, competition from imports, frequent droughts and increased pressure to transform. Therefore, the catastrophe in the sugar sector was an opportunity for the industry to restructure and the Government to re-evaluate the support measures it was providing to the industry. The utilisation for sugarcane presented opportunities for change, such as the production of biofuels being fuel ethanol, biogas, biomaterials for example plastics and the cogeneration of electricity. However, it seems that these opportunities were implemented when the Government introduced appropriate measures and policies to support the sugar industry (Sikuka, 2019:2).

In the interim, the sugar industry adjusted to the challenges it had encountered. Sugar cane growers expanded to other crops, such as macadamia nuts, as a strategy to increase profitability. There were also reports that sugar milling companies were increasing the production of alternative sweeteners, as an alternative of expanding their revenue. The production of sweeteners also responded to the anti-sugar sentiment among consumers. The manufacturers of beverages reformulated their products to achieve these requests (Sikuka, 2019:2).

2.6 Impact of sugar tax on the industry and employment

The food, sugar and beverage industries have actively petitioned against the tax targeted at diet on beverages and foods. However, Sikuka (2019) does claim otherwise. The concern about job losses were the major contentions against a tax on SSBs in South Africa. However, projections that were independently formed on the possible results of tax on the work force, which took into account the emerging alternative markets, were significantly below than the ones as estimated by industry participants (Thow et al., 2018:206).

Chutel (2019) mentioned that in South Africa, as the rate of unemployment continued to increase inflexibly, so did the rate of NCDs in the country. The two rates were charted against each other, as a tax directed at the reduction of the intake of SSBs and enhancing the inhabitants' health in the future was a contributing factor to unemployment. The tax was an approach by the Department of Health to diminish the obesity rate by 10% in 2020. The approach formed part of larger public health policy to diminish the incidence of NCDs.

2.7 Impact of sugar tax on imports and exports

According to the South African National Treasury, by the end of December 2018, R2.3 billion (US$164 million) was collected from sugar tax and R37 million (US$2.6 million) from beverage imports. Therefore, imports only accounted for less than two percent of the income raised from sugar tax (Sikuka, 2019:2).

The South African sugar industry generated R14-billion a year, which included the exported sugar products. The price charged of imported sugar decreased the price that the local industry could charge per load of sugar. The difference in price would affect the challenging market and result in the sugar market being less profitable. The cost-effectiveness of sugar cane farmers and millers was affected by the loss of sales of sugar. The farmers were unsuccessful in their motivation to additionally invest in the sugar market. The farmers did not purchase new mills, machinery, or other equipment, and refrained from recruiting additional employees when there was less income (Moolman, 2017).

2.8 Utilisation of revenue collected from sugar tax

Failures in the market incline to adversely impact the poor because they depend on support of the public in relation to diet-based diseases. Therefore, the poor gain an advantage from taxes collected from SSBs. However, it was contended that the poor bore the most significant tax burden. In fact, it is the poor who gain a more significant advantage from the introduction of tax on sugar. This was because the significant value of sugar taxes generated a new stream of income for governments. Public primary healthcare was funded from such income streams which benefited the poor.

The incomed received from the introduction of tax on SSBs was used to encourage consumption of healthier foods and beverages. Further, the efforts to prevent obesity included grants that reduced the cost of healthy foods compared to energy-dense foodstuffs; public education mass media campaigns; and programmes to make safer drinking water widely available (Lombard et al., 2020).

Research by Backholer et al. (2017) revealed that consumers' perceptions of sugar tax were methods of raising additional government's revenue and not in the interest of improving the health of consumers. The researchers mentioned that sugar tax was identified as a measure to produce income that would be misappropriated by government. Furthermore, that sugar tax would be acknowledged if the income produced was invested in public health improvement programmes, granting health care to individuals who were already diagnosed with NCDs including diabetes and obesity. Eventually in South Africa there was a necessity to alleviate the negative impacts of the constant changing foodstuff environment (Bosire et al., 2019).

2.9 The opponents of sugar tax in South Africa prior to implementation

Lowman (2016) mentioned that the Department of National Treasury referred to the year 1993 when taxes were imposed on mineral water and SSBs to increase collection of income but were removed in 2002. However, the National Treasury (2016) stated that the objective of a sugar tax was to address the obesity epidemic and not to improve income generation.

According to Lowman (2016), this justification was not persuasive for three key reasons: Firstly, as the Government sought the tax to be income-impartial, the tax could have reduced the VAT imposed on other foodstuffs; however, there were no indications to prove the alternative. Secondly, experience in Mexico indicated that an SSB tax was valuable due to its producing additional income, specifically as market for SSBs was often so uncompromising that the inhabitants continued purchasing SSBs at an increased price. Thirdly, as consumers decided against purchasing highly priced SSBs, they purchased alternative products such as untaxed sugar-containing

foodstuffs, which meant that their intake of sugar did not reduce and consequently obesity did not diminish.

The experience and history of sugar tax in other countries affirmed the primary factor that taxes on SSB were successful in generating income. However, South Africa basically could not accommodate another tax which was excessive and which affected lower-income households. Since SSBs taxes have not been shown to fully curb obesity, it was suggested that the Government should discontinue sugar tax and initiate efficient techniques to inform and equip individuals to alleviate the obesity epidemic (Lowman, 2016).

Furthermore, other challengers of the health promotion levy contended that sugar tax was heavier and regressive upon lower-income households. Additionally, unfavourable externalities of health were not because of the increase in excessive sugar consumption but because of diets that are unhealthy and cause malnutrition. The lower socio-economic communities cannot afford healthy nutritious food (Schneider, 2019).

2.10 Perceptions of sugar tax

There was a perception that due to the regressive nature of the taxes, the poor pay a high percentage of their revenue towards the tax interventions. The tax was viewed negatively, and therefore it was suggested that the income produced from sugar tax should be utilised for health promotion and improvement of socioeconomic discrepancies. Furthermore, that obesity including other diseases associated with obesity were prevalent amongst the poor and the poor mostly derived a benefit from taxes (Bosire et al., 2019).

Sugar tax was consistent with widespread government corruption and decreasing tax morality. These considerations extended to the allocation and utilisation of revenue. Allotting the income from taxes towards socioeconomic discrepancies and health promotion would not be successful to improve South Africa's health system. Taxes should be allotted towards improving infrastructural development such as water system, sanitation and service delivery. Tax on SSBs would not be adequate to alleviate the obesity pandemic and other diet-related diseases. However, in the 2019

budget review along with the introduction of the HPL, there was an indication of the use of revenue to support health promotion (Du et al., 2018:188).

2.11 Food labelling

Food labelling plays a key role in assisting and educating consumers to make conscious healthier options before purchasing or consuming foodstuffs. The nutrition- and commercial- and consumer-based drivers are the global drivers influencing the governing modifications for food labelling (Sunley, 2018:30).

Nutrition based drivers, according to Sunley at al. (2018:30) are:

- “Less saturated fat … trans-fatty acids … sugar, salt”.
- “Decreased portion sizes”.
- “More fruit and vegetables”.
- “Effective food labelling”.
- “Incentives for the production & marketing of healthier products”; and
- “Review[ing] current marketing practices” (Sunley, 2018:30).

The following additional commercial- and consumer-based drivers that should be considered when formulating a food labelling regulation were identified by Sunley (2018:30) as:

- “Importance of providing accurate and balanced information for consumers to enable them to easily make healthy choices”.
- “Past abuse of descriptive terms such as healthy and natural”.
- “Greater transparency regarding ‘invisible’ manufacturing practices for example the injection of meats and genetically modified products”.
- “Greater transparency regarding food composition”.
- “Consumer awareness of allergens”, and
- “Compulsory date coding”.

On 1 March 2010, the South African Department of Health (2010) issued the South African Food Labelling Regulations (R146) in the Government Gazette. The objective of the “draft amendments to the South African Food Labelling Regulations (R429)”

was to make available the minimum required nutritional information on all foodstuffs. The draft included beverages or products that did not have any dietary or nutritional claims. Therefore, the least nutritional details labelling was not obligatory for drinks without nutritional or dietary claims pending the promulgation of the “draft regulation (R429)” (National Treasury, 2016:20).

2.12 Conclusion

The next chapter discusses the objectives of introducing a sugar tax, tax system and policy design that the United States of America adopted in implementing tax on sugar, the impact that sugar tax has on the country, as well as the arguments of the opponents of the sugar tax.

CHAPTER 3 - SUGAR TAX IN THE UNITED STATES OF AMERICA

3.1 Background

The sugar tax has been globally applied as a public health mechanism to help diminish the increasing global prevalence of obesity. Sugar tax has not motivated the unhealthy behaviour of drinking excessive SSBs. It was reported that being overweight and obesity accounted for one-third of the world ‘s population. Sugar tax has been introduced in six US states and nineteen countries including South Africa, Brazil, France, Mexico and Chile. One third of the adult population in the USA was reported to be obese or overweight (Du et al*.,* 2018:185).

3.2 Why sugar tax in the USA?

In the USA, the occurrence of obesity was accompanied by a transition in nutrition, symbolised by an upsurge in the ingestion of more processed, energy-dense, less nutritious foods. A conspicuous form of this is sugar intake, specifically the SSBs which are damaging to health. SSBs, among drinks and foods that are high in calories, were for various reasons a suitable focus for intervention in public health (Du et al., 2018:186).

Firstly, the various international beverage entities increased their market scope across the spectrum in the world. In the latter portion of the 20th century, the popularity and accessibility of SSBs developed extensively. There was a decrease in sales, but USA remained and ranked fourth in the consumption of SSBs in the world. Secondly, SSBs contain poor nutrition properties. SSBs are less satiating, rich in calories, contain liquid sugar, and have a low nutrition value. The SSBs contribute to the weight gain of individuals. Thirdly, in the USA, SSBs were associated with type 2 diabetes, obesity and other NCDs. The hazardous effect of SSBs on the growth of chronic diseases was not completely caused by weight gain. The association between obesity and SSBs indicated that these beverages are hazardous and damage health (Du et al., 2018:186).

In 2014, the first jurisdictions in the USA to introduce tax on SSBs were California and Berkeley (Du et al. 2018:186).

The introduction of the tax was due to the increasing rate of obesity in children. Products such as milk-based drinks and fruit juices were excluded from the tax. The intervention by the government to decrease sugar consumption was defensible. The consumers were not considering the costs incurred by the consumption of such foods, that is the health costs that are publicly funded to treat unanticipated future health complications or diet-related disease. Households with children purchased more carbonated drinks than the those without children, which motivated the targeting of SSBs. Therefore, sin taxes for example levied on tobacco, fuel, alcohol and other goods were deemed to reclaim increased social costs. The purpose was to increase the cost as perceived by the consumer and was aligned with the cost relating to their consumption (Griffith et al., 2016:3).

The WHO (2016) has recommended that tax rates for SSB be established to increase prices by a minimum of 20%. The outcome of the increase would be a net decrease in caloric consumption, sufficient to reduce weight on a population-wide scale. The consequences of excise taxes on health and consumption would have been similar in size. Significant increases in tax provided consumers with an illustration that these foodstuffs were hazardous and resulted in significant decline of their utilisation. This outcome was depicted in the World Bank's suggestion that “governments go big, go fast” when expanding taxes on tobacco. A steady approach meant reproving many people to circumvent illnesses and untimely death. The utilisation of income generated from excise taxes did contribute to the health impact of the excise taxes. (Chaloupka et al., 2019:196).

3.3 American SSB market

3.3.1 Design policy for sugar tax policy

According to Thow et al. (2018:202), policymakers in the health sector have acknowledged three essential elements when recognizing suitable targets for taxes or subsidies. The following were the three essential elements:

- “Firstly, according to the available epidemiological evidence, which foods and nutrients were associated with poorer, or better, health outcomes”.
- “Secondly, the extent to which consumption of the relevant foods or nutrients was likely to impose negative externalities on society, and the extent to which consumption was likely to be affected by taxes and subsidies”.
- “Thirdly, which targets were likely to be the most feasible, from an administrative perspective”.

Berkeley, California was the first USA county to pass a tax on SSBs in 2014. Furthermore, taxes of SSBs generated revenue that contributed towards the initiatives that improved the public’s socio-economic development and health (Du et al., 2018:187).

Excise taxes usually impose elevated charges for consumers, lowering the need for taxed produce. The consumers affected by the prices and the amount of the reduction relies on the consumers' price elasticity demand. Price elasticity is a measure used to determine whether the customers perceive the product as a requirement or an indulgence, the amount used from the income of the customer to purchase the product and the accessibility of alternatives (Chaloupka et al., 2019:194-196).

A nationwide precise excise tax of $0.01 per ounce of sugar-added beverages was formulated by the federal, state, and local governments. Sugar-added beverages included all beverages with added caloric sweeteners. The intervention was formulated as an added tax on the existing sales and excise tax charges which were on a yearly basis regulated for inflation. The milk products, 100% juice, or artificially sweetened beverages were excluded from the excise tax (Long et al., 2015:113-116)

The USA government imposed a variety of taxes including customs duties, value-added or general sales taxes, and excise taxes on items including tobacco, alcohol and SSBs. In the USA, excise levies played an integral role in improving health. The levies were distinctively employed with regard to foodstuffs. Therefore, the levies had a substantial influence on comparative prices as compared to the levies employed on a wider scale of goods and services (Long et al., 2015:113-117).

Specific excise taxes, being built on volume, provided benefits as compared to ad valorem excise taxes built on price or value. Excise taxes decreased price disparities among various brands and decreased prospects for consumers to change over to less expensive brands, particularly when there was an increase in taxes. They encouraged the manufacture of high-priced produce. Selective taxes were not difficult to administer and created additional constant income because they were not exposed to the sector's price alterations. The major shortcoming of the specific taxes was that they had to be increased frequently to prevent inflation from diminishing their value (Long et al., 2015:113-116).

3.3.2 Administration of sugar tax in USA

At the resident phase, the matters were authorization to tax and uniformity of taxable grades. States had extensive liberty in what taxes should be administered, and how. States individually established internal revenue service authority accessible to local governments. For example (Francis et al., 2017:10):

- "Maryland, allowed counties to levy a tax on income up to a maximum rate but not on sales";
- "Alaska did not have a state sales tax but allowed local governments to tax sales in their jurisdictions";
- "California allowed local governments to authorize some additional taxes but only with direct approval of voters"; and
- "New York generally restricted what local governments could tax although sometimes gave special taxing authority to some large [local] governments. New York City was allowed to levy a local income tax and had an additional cigarette tax".

The burden of compliance on taxpayers improved due to having various jurisdictions able to administer levies and taxes. Alabama, among other states, collected tax on cigarettes. There were two stamps on each cigarette package. There was one for the city and county tax and one for the state tax. One factor of the main excise taxes was that the same taxes were imposed on producers and importers by the federal government. There was a substantial compliance burden. The product descriptions

were partly concluded at national level utilising the resources of the federal government. The lower tiers in state government established their own tax system descriptions and the products that were to be included (Francis et al., 2017:11).

In the USA, the management and administrative issues confronted across 50 states were expanded due to the large number of local jurisdictions. The suitable determining taxes on SSBs, however, were established on federal requirements for nutritional labelling. Labels that specified calories and content of sugar were incorporated. The lower tiers in state government separately reported foodstuffs with added sugar as per the federally required information in the mid-2018 and the minor brands during the mid-2019. This meant that the required information by the federal government, enabled the local state government to establish foodstuffs that were subject to a tax, and regulated taxes based on sugar content. The tax formulated on the ingredient amount precluded the precipice effect of the definite tax (Francis et al., 2017:11).

Sin taxes were levied on tobacco and used as a tool to discourage the use of the harmful and unhealthy product. Similarly, for taxes on SSBs, they were levied as sin taxes. Health care expenditure incurred to treat diseases increased due to excessive intake of SSBs, the use of tobacco, and excessive drinking. The increase in this expenditure was an added factor that led to losses in productivity (Chaloupka et al., 2019:188-190).

Tax on sugar was applied differently by several states. Some states adopted a method of imposing tax on carbonated beverages and exempted SSBs, while other state government imposed tax on all artificially sweetened beverages and SSBs. The income generated and health tax were adversely affected by the tax design. The smaller the foodstuff base, the larger the prospect of replacing the exempt foodstuff. Therefore, this resulted in a decreased effect on health while producing less income. The content-based taxation resulted in difficulties for administering tax since it was a requirement to examine the composition of the foodstuff (Chaloupka et al., 2019:191-192).

Taxes were frequently increased to adjust for inflation and the increase in income to neutralize the increased price of the product. Moderate and sporadic tax increases

were not aligned with inflation, which led to a progressive decline of inflation-adjusted prices and to increased intake (Chaloupka et al., 2019:193-195).

3.3.3 Impact of sugar tax on employment and industry

The sugar, foodstuffs and beverage market aggressively petitioned against “diet-related taxation” on beverages and foods. The industries claimed that the taxation led to loss of employment. The effects of such a tax on employment developed alternate markets, but the effect was insignificant as compared to the losses that industry participants reported. Tax on SSBs led to an increase in overall employment which was influenced by the change in consumer spending. The US Federal government utilised the income received from tax on SSBs to create employment. State financial support applied to agricultural products and designed to improve health and diets, had a positive influence on employment (Thow et al., 2018:206-207).

The sugar, food and beverage industries contended that tax led to a reduction of sales. Furthermore, that tax instigated major loss on employment for employees who produced, dispersed and sold SSB produce. Loss of employment in the taxed industry was counterbalanced by employment increases in other segments. There was a change in consumer spending, less was spent on taxed foodstuffs and more on other services and goods. The government gained an advantage and utilised additional income received from tax, which lead to an increase in employment in other segments (Chaloupka et al., 2019:193).

3.3.4 Impact of sugar tax on imports and exports

There were two successive seasons in October 2017 to September 2018 where a shortage of supply was experienced. In the 2017 marketing year, international production of sugar recovered and a growth equivalent to that reported in the previous five years was achieved. In China, increased production was influenced by favourable weather environments in Thailand and India. The increase was due to the termination of the production quotas in the European Union. However, Brazil which was the major producer of sugar, reported a decline in sugar output because sugar production

became less lucrative compared to processing sugarcane into ethanol (OECD et al., 2018:139 -140).

In 2016, there was a decrease in international sugar imports notwithstanding decreased prices in 2017, the reduction of imports in China led to a decrease in imports. On the demand side, high-level consuming countries experienced no growth. The health crisis linked to excessive intake levels influenced consumers to alter their attitude towards sugar. In the 2016 marketing year, there was an increase in prices, but these prices deteriorated in the 2017 first quarter (OECD et al., 2018:139 -140).

The difficulties of charging excise taxes expanded as the taxing jurisdiction was reduced. It was challenging for consumers to be tax compliant because the taxes were exorbitant. In the USA, consumers gained an opportunity to purchase SSBs in other jurisdictions outside and avoided paying tax. The securely monitored boarders presented this as a challenge at national level. There were fewer points of entry and they were controlled. It was difficult to obscure shipments because they were largely seized. Inside the USA, the borders were normally not closed. The USA had constitutional protection of interstate trade which presented a challenge to monitor and control the movements of goods between the locations (Francis et al., 2017:11-12).

In the USA borders were exceedingly permeable with many entry points. There was across borders a less considerable indication of the level to which businesses and consumers altered their buying of beverages. The attitude was more crucial for jurisdictions that imposed large taxes and were in small geographical locations (Francis et al., 2017:11-12).

3.3.5 The impact of sugar tax on the behaviour of manufacturers and consumers

Globally, the extent of the obesity pandemic in relation to economic costs of public health developed to an astonishing degree while a dangerously excessive intake rate of SSBs was constantly on the upsurge. The increasing availability and persistent marketing of unhealthy foodstuffs created a challenge for consumers, particularly for children of the racial minorities and lower-income communities, to ingest healthier foodstuffs (Du et al., 2018:185-187).

Due to extensive marketing promotion and the absence of community knowledge about the hazards of liquid sugar, consumer awareness of healthier options was limited. Furthermore, the SSB market inflicted extensive costs for the public health care needed to respond to the various diseases that SSBs were proven to cause. Therefore, public health guidelines were essential at this level. The vested interest of soft drinks industry progressed to affect the legislative debates, the introduction of tax on SSBs and the perception of the public (Du et al., 2018:185-187).

The acquisition of competing brands, product innovation and the reduction of portion sizes, caused the beverage and food industry to reformulate their product portfolios in response to the threat of taxes on sugar and customer demand. Success was not assured when a product was reformulated, because the price could have been too high, and this could have destroyed the brand had consumer expectations not been met. Numerous consumers of SSBs switched to artificially sweetened beverages with the purpose of avoiding sugar taxes. The approach was effective in many markets. However, consumers in USA preferred full sugar options as they perceived diet drinks as poor value (Irving, 2019).

Several firms, manufacturers of food, retailers and distributors were able to influence the impact of taxes on food. Some taxes were borne by individual retailers rather than passing them on to consumers by increasing the prices. In Berkeley, less of the tax on SSBs charged to distributors was passed on to the consumers in the form of inflated retail prices. In Philadelphia, it was indicated that a larger portion of the tax was filtered down to consumers (Thow et al., 2018:206).

The food sector focused on the consequences of tax on foodstuffs for profits, sales and consumer demand. The focus on the market undercurrents and the accessibility of replacements reinforced the pricing strategy. Internal elements including “marketing objectives”, “the marketing mix strategy”, “other organizational considerations” and expenses, influenced the pricing strategy. The tax-exempt replacements provided an advantage to the sector to utilise discounts or marketing to motivate consumers to change to healthier replacements that were exempt from tax (Throw et al., 2018:207).

3.4 Food labelling

The food manufacturers played a key role in reformulating their products and reduced and eliminated health promotion taxes imposed on foodstuff. Strict encouragements of food reformulation were provided by efficiently formed grants or taxes, which differed on the substance of unhealthy nutrients. The healthiness of foodstuffs was enhanced by reformulation. Such reformulation arose in reaction to the addition of calory numbers to labels and the further comprehensive labelling on packages (Thow et al., 2018:207).

3.5 Utilisation of revenue collected from sugar tax

In January 2017, Philadelphia introduced tax on SSBs. The objective was to fund pre-kindergartens worldwide. The initiative was specifically not referred to as a health improvement mainly to avoid government political debates relating to altering individuals behavioural patterns. In June 2017, the Mayor of Philadelphia pronounced that the tax generated from SSBs was utilised to finance pre-school education appointments and offered funding to public schools students together with their families (Backholer et al., 2017:3220-3221).

In April 2017, Albany, California, tax on SSBs was introduced but excluded small enterprises in the SSBs industry. The objective was to increase income with an appointed advisory committee to recommend the funds allocation. In June 2017, Seattle, Washington, tax on SSBs was introduced with the objective of increasing revenue. The income generated was utilised to finance tax administration costs, community health programmes including discussions of health inequalities and healthy food promotions. In July 2017 Cook, Illinois tax on SSBs was introduced. The objective was to increase revenue and lessen the deficit on the budget. However, after three months of introducing the tax, the tax on SSBs was retracted due to the Cook County Board of Commissioners' veto vote. The Cook County Board of Commissioners' reaction was influenced by the consistent community discontent that was stimulated by the SSBs industry which financed petitions and political motions that opposed tax on SSBs (Backholer et al., 2017:3220-3221).

In July 2017, Boulder, Colorado tax on SSBs was introduced. The objective was to increase income and utilise the funds to improve wellness, health, funded programmes

that were related to chronic diseases and financed tax administration costs. In July 2017, Oakland, California, tax on SSBs was introduced but excluded small enterprises in the SSBs industry. The objective was to increase the income and utilised the funds to support programmes that improved wellness and lessened the health risks that were related to the consumption of SSBs (Backholer et al., 2017:3220-3221).

According to the OECD/Food and Agriculture Organization of the United Nations (2018) in introducing tax on SSBs, three main tasks should be considered. Firstly, taxes have been contested as being regressive as they affect the poor who pay a substantial proportion of their income. Identifying some of the income from tax applied towards initiatives that improved the socio-economic discrepancies, improved the potential harmful effects related to this issue. Furthermore, the consequences of obesity and NCD were disproportionately borne by the poor, however it was the poor who obtained an advantage and gained from the taxes. Secondly, the deliberations regarding the distribution of income from taxes was considered. Certain literature recommended that reserving the income from tax for health initiatives was not advantageous in expanding health priorities for national budget expenditure. Notwithstanding health initiatives, income from tax was efficiently allocated towards the development of infrastructure, for example water systems (OECD et al., 2018: 139 -142).

Alcoholic beverages and tobacco products have been extensively taxed by governments over the years. Taxes on SSBs were introduced by various governments. A few producers dominated the market. Their foodstuffs were clearly categorised and extensively consumed. Furthermore, income from these taxes was not difficult to administer and created substantial income. The economic, social and health outcome from these foodstuffs became more apparent. Such foodstuffs were the dominant factors behind the international NCD pandemic. Taxes were administered by government to encourage healthy consumption of foodstuffs (Chaloupka et al., 2019:194-195).

3.6 Opponents of sugar tax

According to the opponents of sugar tax, taxes on consumption are usually regressive in nature, that is they have a negative economic effect. This meant that the taxes affected the income of the poor more negatively than that of the rich. The opponents contested that taxes disadvantaged the poor, specifically for SSBs and tobacco products due to their use being excessive in this community. The burden on health was borne by the poor due to the increased level of intake of these products. However, there was a progressive effect on health owing to the increase in taxes and the lower-income communities' larger price vulnerability (Chaloupka et al., 2019:193).

The industries that were exposed to sin taxes, including their associates, developed opinions opposing taxes on alcohol, SSB and tobacco. These industries contended that the increase in tax reduced the income from tax due to the decreased intake. Therefore, there was an increase in unemployment, which harmed the poor particularly with tax consumption that was regressive. The outcome was the adverse evasion and avoidance of tax. However, international experience illustrated that these allegations were exaggerated and incorrect (Chaloupka et al., 2019:193-194).

Tax on SSBs in the USA was opposed by the producers of SSBs including the two major producers of SSBs being PepsiCo and Coca-Cola based in the USA. PepsiCo and Coca-Cola dominated the SSBs producing market internationally and held controlling rights in other developing countries that were growing economically. The interest of profit was the main reason the tax on SSBs was opposed (Du et al. 2018:186).

The industry participants established a strategy that operated anti-tax campaigns and petitioned against the proposals for tax on SSBs. In the USA, annual petitioning dollar expenditure incurred by the beverage industry increased the year a federal tax on SSBs was proposed. The increase has remained constantly elevated ever since. Furthermore, additional taxes on SSBs were proposed between 2011 and 2015 in different cities (Du et al. 2018: pp187-188).

The legitimacy of the implemented taxes on sugar was contested in court by the industry campaigners. The American Beverage Association (ABA) opposed the legitimacy of SSB tax in Philadelphia. In 2018, the American Beverage Association

(ABA) was successful in its appeal to the Pennsylvania Supreme Court (Du et al. 2018:188).

3.7 Conclusion

Governments investigated the most suitable method to restrict consumption. The focus was specifically on addressing the hazardous effects of SSBs and sugar intake. Initiatives of imposing tax on SSBs were introduced at local level. Tax on SSBs was introduced in various counties in the USA, namely Albany, Philadelphia, Berkeley, Cook County and San Francisco. Some municipalities also followed and introduced tax on SSBs (Francis et al., 2017:1).

In the USA, sugar tax was not adequate to substantially reduce the predominance of diet-related diseases and obesity. Food labelling was identified as an effective intervention to decrease the prevalence of obesity. Therefore, various counties and cities included placing warning labels of SSBs. Public service advertisements were another efficient initiative to reiterate and bring awareness about the hazardous consequences caused by the intake of excessive SSBs (WHO, 2017).

Other effective government interventions included the introduction of regulations for food advertising, education campaigns, subsidies from government to fund healthier foods and simple food labelling that is understandable. There was a set of comprehensive interventions that focused and controlled various phases of the distribution process of drinks and foods to customers. The interventions were essential to efficiently confront the NCD disease and obesity epidemic (Du et al., 2018:188).

CHAPTER 4 - SUGAR TAX IN MEXICO

4.1 Background

Mexico has experienced a predominantly high rate of diabetes and obesity since the 1980s and it became the first cause of mortality. More than ten years ago, various research groupings submitted adverse variations in the lifestyles, food structure and atmosphere that were connected to the obesity pandemic (Green, 2018).

In 2009, the National Institute of Public Health was mandated by the Ministry of Health to create the technical formation of a national policy. The objective was to identify priorities for action and the prevention of chronic diseases. In the following years, the best available evidence was employed to develop several initiatives (Rivera, 2016).

There were workshops and consultations organised with international and national specialists, foodstuff industry parties and government officials. The projects and initiatives established and recommended were as follows (Haines, 2017):

- “An education programme for healthy hydration”;
- “A national obesity and chronic diseases prevention plan”;
- “A front-of-pack labelling system review and recommendations”;
- “Recommendations for taxes on sugar-sweetened beverages and calorie-dense foods”;
- “Guidelines to limit the sale and promotion of calory-dense foods and SSBs at elementary schools” and
- “Regulations for marketing of food and beverages to children”.

Mexico was a country known as a nation of carbonated drink consumers. In 2012, Mexico proposed a bill that introduced a 20% tax on the existing selling price of SSBs with the objective of alleviating the obesity epidemic. In 2012, Mexican annual intake of SSBs was 160 litres per capita resulting in Mexico being ranked the highest consumer of SSBs in the world (Haines, 2017).

In addressing the obesity and diabetes epidemic, the Mexican government implemented a 10% excise tax on SSBs in 2014 (Sánchez-Romero et al., 2016).

Mexico set a leading example in sugar tax interventions by implementing tax to improve the health care system. It was shown to be successful in influencing consumer behaviour and increasing revenue. Tax on SSBs was introduced to diminish the excessive intake of SSBs, and to prevent the upsurge of NCDs including pulmonary diseases, diabetes and obesity (Haines, 2017).

A National Obesity and Diabetes Prevention and Control Strategy (2012-2018) was launched by the federal administration in 2013. The Mexican Observatory on Non-communicable Diseases, or *Observatorio Mexicano de Enfermedades No Transmisibles,* referred to in Mexico as OMENT, was established as a factor of this strategy. In September 2014, the OMENT Advisory Council was selected with the objective of assessing the impact of the policies and actions introduced as elements of the National Obesity and Diabetes Prevention and Control Strategy (Barquera et al., 2018).

4.2 Why a sugar tax in Mexico?

In 2016, Mexico alerted the public to the obesity epidemic after identifying its dire position exceptionally late, with a large population of adults being obese, and death associated with diabetes claiming about 100,000 people per annum (Barquera et al., 2018).

In view of the high death rate, Mexico focused on averting and regulating the upsurge of obesity and the related NCDs. In 2010 the government formulated a nationwide strategy to conquer obesity. Additionally, the Department of Health (2013) developed the National Obesity and Diabetes Prevention and Control Strategy of 2013 which added impetus to the efforts of regulating obesity. In 2014 an excise tax was implemented on SSBs in Mexico (Barquera et al., 2018).

The food market had limited the impact of further nutrition strategy such as intervention in healthy school initiatives, regulating marketing to youth and front-of-pack labelling.

Breastfeeding mothers were uncertain of whether to breastfeed their offspring or not. Uncertainty emanated from aggressive and unethical marketing practices. The practices resulted in Mexico having a low rate of breastfed children, one of the lowest rates in the world (Barquera et al., 2018).

4.3 Mexico's SSBs market

In 2013, the administration in Mexico faced an economic crisis when the price of oil decreased. There was an unexpected decline in economic growth, due to decreasing production and the oil price. The three political parties namely the Institutional Revolutionary Party called the PRI (Partido Revolucionario Institucional) ,the PAN (Partido Acción Nacional), and the PRD (Partido de la Revolución Democratica), entered into an agreement as allies in the Pacto por Mexico (PPM) that is, a National Political agreement. PPM was formed to undertake projects in the categories of security and justice, rights and liberties, economic growth, employment and competitiveness, transparency and combating corruption, and democratic governance. The PPM was compelled to resolve the decreasing economic growth by creating additional government income. This prompted the introduction of tax on SSBs and was levied as part of direct taxes (James, 2020).

The introduction of new taxes made revenue a prominent topic for policymakers. The tax implemented on SSBs had a positive influence on income generated as these funds were utilised to provide clean drinking water to the community. Furthermore, despite the consistent opposition by the industry, the favourable influence of revenue generated from tax on SSBs became a vital element in deciding the maintenance of a continuous tax in Mexico (Thow et al., 2018:206).

In December 2014, the number of purchased taxed drinks declined. There was a reduction in purchases of SSBs within all three socio-economic groups. People altered their drinks and instead purchased plain bottled water. The change to bottled water resulted in increased purchases of untaxed beverages (Haines, 2017).

The Mexican beverage industry dedicated resources towards the health care of Mexicans and provided solutions to the obesity pandemic. The industry players

promoted and undertook social responsibility programmes that focused on physical activity, well-being, and educating the nation (Desk, 2018).

The beverage industry has since 1994 sponsored sports tournaments including soccer, basketball, and others, in which a substantial number of young people participated. Furthermore, the industry installed recreational parks in several states of the country, encouraging many Mexicans to perform physical activities. Training sessions were provided for individuals in diet education programmes countrywide, benefitting many children. Food workshops were conducted for many parents. Furthermore, in Mexico the sugar-sweetened drink industry operated on modification and expansion of the products portfolio. The reformulation of the product resulted in low-calory and zero-calory drinks (Desk, 2018).

In 2014, the introduction of sugar tax resulted in a number of shops becoming insolvent. However, consumers were mainly impacted since they paid the tax and withstood the robust cost increase from the initial year of its introduction. It was noted that the increase in the cost of SSBs was double the yearly inflation rate of the state four years after introduction (Desk, 2018).

4.3.1 Impact on behaviour

Lowman (2016) argued that SSB sales did not respond as intended to tax. In 2015 the government revenue collection from sugar tax, in contrast, generated more revenue. Overall, in Mexico sugar tax generated billions of pesos while the intake of SSBs minimally reduced or insignificantly affected the obesity rate. Sugar tax was regressive. The poorest households were greatly affected by sugar tax because a higher proportion of their income was allocated to spending on SSBs. In 2014, tax on SSBs was reported to be reason for the loss of ability of the poorest households to purchase foodstuffs and drinks other than SSBs (Desk, 2018).

Middle-income households in Mexico had almost the same revenue in 2014 as in 2013. The households were compelled to recalculate their budget spending to survive in this context. It was apparent that the households were affected by heightened costs, which compelled them to alter expenditure and consume other taxed and non-taxed

classifications of goods. Less was spent on classes of household and personal care and more focus was on classes that were taxed such as SSBs (Desk, 2018).

4.3.2 Impact on employment

In Mexico, there was a reduction in demand for taxed and hazardous products which increased household spending of other products and resulted in turn in substitutes for occupations lost in the taxed businesses. The growth in employment was interrelated with tax on SSBs, because the reduction of employees in the soft drink industry was counterbalanced by the creation of new employment within the non-soft drink industry and government (Guerrero-López et al., 2017:47).

In 2015, sales reduced on average, including household purchases, due to the introduction of tax on SSBs (Guerrero-López et al., 2016).

Bottled water sales increased due to the manufacturers who, in addition to producing SSBs, diversified and sold bottled water (Colchero et al., 2017:47).

The sales reduction of taxed drinks was interrelated to the negative impact on unemployment. The rate of unemployment was affected by the potential decrease in jobs in the manufacturing sector. It occurred as the manufacturing sector accounted for less in SSBs and non-essential energy-complex food of total workers in the sector (Guerrero-López et al., 2017:48).

4.3.3 Impact on imports and exports

In Mexico, due to the volatile agriculture industry, free trade was challenging to negotiate. Mexico’s productivity was and remains disadvantaged compared to Canada and USA. Productivity in agriculture remains a challenge for farmers in Mexico. It took approximately 15 years to complete liberalisation transition of delicate products such as sugar and corn. Snack foods were largely exported from the USA to Mexico. However, direct foreign investment from US businesses occurred in the food chain supply, starting from manufacturing and processing to retail and restaurants (Barquera et al., 2018:21).

4.4 Utilisation of revenue collected from sugar tax

A reduction in obesity, diabetes and hospitalization was vital to leverage these statutory procedures. The collected income essentially played a role in this regard. The income collected was devoted to school programmes and supported child-related activities such as sports and physical education. Furthermore, in underprivileged schools, drinking water fountains were made available as a mechanism to reduce obesity. The income saved was reinvested in health-promoting programmes (Bedi, 2018).

Despite the WHO highlighting the negative impact of SSBs on NCDs, including diabetes, obesity and tooth decay, a substantial amount of revenue was devoted to combating the prevalence of diabetes and obesity. There were no resources allocated to promote dental health care. It was vital that a portion of the funds accumulated from sugar tax should have been devoted to programmes such as advanced oral health care and communication policies for the community. In developing countries oral health care was enormously poor, particularly in children. Therefore, there was a need for focus on child oral health care (Bedi, 2018).

Coca-Cola in Mexico regularly contributed to and sponsored sporting events throughout the country. There were fifteen Coca-Cola programmes that were developed to benefit the health industry. The Mexican Diabetes Association and Coca-Cola sponsored events and facilitated an initiative of the government which targeted obesity in children. Coca-Cola and the National Council of Science and Technology sponsored a prize for scientific research on public health, health care, wellness and diet (James et al., 2020).

A 10% increase in tax was related to the reduction in sales of taxed beverages and an increase in purchases of untaxed healthy beverages. The effectiveness of the tax was evident. The imposition of taxes on unhealthy foodstuffs was regarded as a segment of a wider policy, similar to the one recommended by the World Cancer Research Fund International Nutrition Framework. As with other charges, the tax should be modified for economic and inflation adjustment on a yearly basis (Rivera, 2016).

4.5 Opponents of tax on sugar

The tax on SSBs had an effect on the SSB supply chain, including SSB bottlers, stores selling SSBs and Mexican sugar producers. The clusters were represented by their associations and organisations including the *Unión Nacional de Cañeros*, which represented the sugar cane sector and the *Alianza Nacional de Pequeños Comerciantes* (ANPEC) which represented trade groupings and small businesses. The manufacturers of SSBs depended on their representatives to contest the tax structures rather than contesting the tax directly. The manufacturers were represented by organizations including the *Asociación Nacional de Productores de Refrescos Aguas Carbonatadas* (ANPRAC), the National Association of Soda and Carbonated Beverage Producers and the Lobby group, *Consejo Nacional de la Industria de Productos de Consumo* (CONMexico) (James et al., 2020).

These organisations that were referred to as tax opponents presented an aggressive campaign contesting the planned tax on SSBs. Politicians in the Mexican Congress were lobbied by the SSB manufacturers to contest tax. The manufacturers broadly advertised their opposition to the tax on SSBs. They contended that the tax would negatively impact small entities and employment. Furthermore, the manufacturers contested that the tax in its economic effects was regressive and would disadvantage the poor people and not decrease the rate in obesity (James et al., 2020).

The following five lessons were observed in Mexico when it approved the tax in the country despite the strategies of its opponents were (James et al., 2020):

- “The approval of SSB tax was problematic and required high-level organization, cooperation, planning, and effort”;
- “The supporters of tax on SSBs needed an understanding of how to manage the political and economic context, facilitated by a grant from the philanthropists”;
- “Designing the tax as generating revenue assisted in obtaining the proposal onto the policy agenda and enabled the support from the influential Ministry of Finance”;
- “The early formation networks within the legislature of sugar tax allowed tax proponents to have a network of allies within congress available when the SSB tax was introduced as a bill”; and

- “The public relations campaigns conducted at the early stage assisted in preparing the public perception that Mexico's obesity epidemic was driven in part by SSB consumption”.

In Mexico, sugar tax was not effective in decreasing the intake of SSBs because it made an insignificant change at the cost of the consumers. The main reason for the tax being unsuccessful was that Mexico did not implement a considerable tax, that is sugar tax, but instead implemented a minor adjustment to a minor fraction of the calory supply of the country (Snowdon, 2016).

4.6 Food labelling

The principal objective of the front-of-package labelling system was to guide and improve choices made by consumers to healthier ones. The reason was that the food industries’ major interests were influenced by the results of the proposed regulations. Food industries players were identified as major contributors to risk in the process of making policies to the financial detriment of the consumers (Barquera et al., 2018:80-86).

In October 2013, the National Strategy to Prevent and Control Overweight, Obesity and Diabetes was launched in Mexico with the purpose of reducing the upsurge of obesity. Regulatory alterations as part of the system for front-of-package labelling were mandatory. In 2014 the new law was announced and consisted of the following (Barquera et al., 2018:80-86):

- “Mandatory front-of-package nutrition information on saturated fat, other fats, total sugars, sodium, and energy content per package”; and
- “Voluntary claim or health logo called a 'Sello Nutrimental', which the food producers could display on products that meet the nutritional standards for each food group”.

In Mexico, food labelling was deliberated extensively over the years. The most prominent conglomerate in the food industry was ConMéxico. In 2009, ConMéxico, on their own accord, implemented the front-of-package labelling system based on the Guideline Daily Amounts (GDA). The policy was implemented notwithstanding the

shortcomings that were globally evident. In 2013, COFEPRIS, the agency for food and drug regulation, was designated by the Ministry of Health to facilitate the design of a front-of-package labelling policy (Barquera et al., 2018:80-86).

On the introduction of the labelling policy, civil society organisations and public health experts challenged it, on the grounds that it was not sufficient and did not confront the obesity epidemic in Mexico (Barquera et al., 2018:80-86).

The main arguments against the policy were presented as follows (Barquera et al., 2018:80-86):

- “Stricter criteria and simpler formats were required for the specific Mexican context”;
- “There was a lack of information on added sugars or trans-fat content nutrients that were related to adverse health outcomes”;
- “The labels did not include colour-coding for high or medium or low levels of nutrients, even though evidence showed that these improved consumers’ understanding”; and
- “The nutrient criteria did not match the cut-off points used in other nutritional policies, for example, snack tax and school food guidelines, which may be confusing for consumers in Mexico”.

In 2014, COFEPRIS introduced two vital policies being, to adjust and modify the guidelines for advertising drinks and foodstuffs to children and amendments of the front-food package labelling system. The two policies were effected in 2014 after the OMENT was introduced. There were informal reports that were funded and disseminated to refute the effect that tax on SSBs had on consumption. The reports contested that the tax was regressive, that is, it had a negative economic effect and targeted the poor. Doubt emerged about the documented advantages, building institutions that supported suggestions that varied with those formerly issued by the academics (Barquera et al., 2018:80-86).

The front-package labelling system enhanced self-control. There were apprehensions about the system being less beneficial to the community and advantageous to those who understood dietetics and nutrition. Therefore, it was stated that the system should

be supported by a communication-based approach. The members of the civil society stated that due to the tight collaboration of the food industry and the government, improvement of the front-package labelling system led to the interests of big corporates being safeguarded at the cost of the consumers' interest (Barquera et al., 2018:80).

4.7 Conclusion

Even though the authorities were concerned about the burden that obesity posed in Mexico, a positive response was challenging to introduce. Financial investment was critical in confronting the obesity pandemic. Urgent direct action was required from civil society, health professionals and government to present a successful campaign and programmes that would promote lifestyle changes and enhance standards of treatment (Barquera et al., 2018:18-25).

Mexico adopted a system that affected its progress and ability to achieve justifiable development targets, accepting the close link to education, gender and poverty. These diseases intensely impacted social well-being including the ability to achieve equitable status and lead a sustainable life. The challenge of addressing obesity aggressively in Mexico and its instant consequences served as an educational platform for countries with larger communities that had not yet attained this transition phase of the pandemic. The early reaction of these countries avoided the economic and public challenges encountered in Mexico (Barquera et al., 2018:18-25).

Preventive measures to treat and manage obesity along with the response to health care should be drastically enhanced. The majority of medical professionals were not knowledgeable about recommending appropriate diet, lifestyle amendments and physical activity, essential to control and prevent diabetes, obesity, and other non-communicable diseases. Furthermore, BMI diagnosis, screening and medication were not general procedures in major care structures. The standard for the treatment of obesity was outdated and did not constantly incorporate recommendations based on proof or medication that the Ministry of Health approved. This created confusion among professionals (Barquera et al., 2018:18-25).

The National Academy of Medicine of Mexico called for various obesity indicators to be imposed as a compulsory component of the clinical background. An additional concern was that community primary care clinics in Mexico were not obligated by statute to recruit qualified nutritionists. Where a registered dietitian was to be recruited, it was in the position of a social worker or nurse, which undermined the holistic treatment approach. Furthermore, when early diagnosis and awareness campaigns were implemented, their budgets rarely included a monitoring or an evaluation segment or structure. Therefore, the methodical practice for assessing and familiarising programmes and obesity-linked strategies was an immediate urgency (Barquera et al., 2018:18-25).

CHAPTER 5 - DENMARK

5.1 Background

Denmark's government was compelled to address the increased rate of obesity and therefore adopted taxes such as sugar tax and fat tax, referred to as nutritional taxes, to promote healthier diets. SSBs, saturated fat and other food products were the leading cause of cardiovascular illness, tooth decay, obesity, and other NCDs, such as cancer and diabetes (Nieburg, 2013).

The taxes were introduced in the initial upsurge of taxes to improve health and were insignificant compared to other countries, for example Mauritius, that introduced significant taxes. In 2011, Hungary effected taxes as an initiative to improve public health. In 2012, France effected tax on beverages with added artificial sweeteners and added sugars (Chaloupka et al., 2019:197).

In 2011, tax referred to as fat tax was effected by Denmark. The fat tax was targeted at saturated fats and to limit the intake of such fats. Denmark's experience of this tax was highly educational because after one year of its implementation, fat tax was abolished. The reason to abolish the tax was due to the conflicting impact it generated outside any considerable effect on the behavioural intake of the fats (Petkantchin, 2013:1).

In 2009 Denmark presented fat tax as a component of a package of reform of tax. In March 2011, the tax was ultimately implemented and was effected on 1 October 2011 after several amendments were made. The purpose of the fat tax was to motivate people to select and consume healthy foods with less saturated fat and utilise the money to improve public health programmes. In Denmark, trans fats were banned (Johnson, 2012).

The fat tax was applied to all foodstuffs with a “saturated fat content exceeding 2.3%” (OECD,2012:4). Various foodstuffs were affected, including drinking milk, meat, cheese, butter, margarine and oil. Foodstuffs such as chips and other snacks also

contained taxed food components. Fat tax was charged at “16 Danish kroner per kilogram of saturated fat” even where saturated fat was less than 2.3% of the completed product (Petkantchin, 2013:1).

Denmark initially imposed a tax on SSBs in the 1930s. The primary purpose of this particular tax was limited to tax income production rather than altering consumer behaviour (Chaloupka et al., 2019:197- 199).

In Denmark, sugar tax was levied on spirits and beer, chocolate, ice cream, soft drinks, and sweets to reduce obesity. The primary basis of sugar tax was on the volume or weight of the produce and not the content amount of sugar. This made it difficult for the food and drink companies because the producers argued that as they produced these products, the government collected more revenue (Nieburg, 2013).

In Denmark, the basis of sugar tax was on the weight or volume of the produce, and not on the amount of the content of sugar. Denmark's excise levy was directed at confectioners, soft drinks makers and ice-cream manufacturers, which made it difficult for the manufacturers to remain in the industry. The tax led to higher prices for consumers who then travelled across borders in search of lower price options. This incentivised companies to move production volumes out of Denmark. Denmark had a permeable cross-border entry (Nieburg, 2013).

5.2 Why a sugar tax in Denmark?

In Denmark, there was excessive consumption of saturated fat and SSBs among adults and children. The country's excessive use of soft drinks and other food products were the leading cause of obesity, tooth decay and other NCDs, especially cardiovascular illness. In Denmark, adults and children consumed more sugar than recommended. The public authorities were compelled to implement fiscal constraints as a restrictive measure (Petkantchin, 2013:1-3).

5.3 Denmark's SSB market

In Denmark, collection and administration of excise duties were costly and resulted in the deterioration of medium and small businesses. The manufacturers and businesses that manufactured or imported foodstuffs containing saturated fat were obligated by statute to proclaim and calculate the amounts of sugar and listed fat included in their foodstuffs. The related taxes were to be paid. Meanwhile, foodstuffs meant for export were exempted from tax. The collection and administrative formalities were more complex than expected. These formalities required a selection of human, logistical, financial, and computer resources. This placed an administrative burden on larger companies in the industry (Petkantchin, 2013:2).

5.3.1 Impact of sugar tax on employment

The need for the poor household to reduce their cash spending by purchasing cheaper similar foodstuffs in neighbouring countries negatively impacted the food structure market and the distribution industry. The deteriorating domestic sales market affected companies in the retail and food trade industry negatively and they were compelled to retrench employees. According to the organisation that represented Danish farmers and food companies, the Danish Agriculture and Food Council, this resulted in approximately the loss of 1,300 jobs (Petkantchin, 2013:2-3).

In the 2013 fiscal budget, the Danish Ministry of Taxation pronounced that the fat tax and sugar tax were analysed and critiqued for the upsurge of the costs on goods for customers and businesses and for the risk of unemployment. The fat and sugar taxes contributed to residents travelling across the border to purchase cheaper foods (Lowman, 2016).

5.3.2 Impact on imports and exports

In Denmark, increased taxes on nutrition created a substantial difference between local prices of foodstuffs and the same foodstuffs sold in neighbouring countries, particularly in Germany. Amid the predicament experienced economically, the nutritional taxes induced the households that were low on cash to purchase the

products in neighbouring countries. This limited the loss of buying power and the welfare (Petkantchin, 2013:3).

The implementation of nutritional taxes in Denmark enhanced cross-border trade and households were bulk-purchasing their groceries in neighbouring countries. Danish food products were affordable in Germany. The increased taxes imposed on products such as soda and beer were also a contributing factor for households to purchase foodstuffs in Germany (Petkantchin, 2013:3).

5.4 Utilisation of revenue collected from sugar tax

A level of economic perception was improved to justify the nutrition taxes imposed. According to this perception, the rate of intake of some foods was extremely high, mainly in relation to certain costs being unfavourable “external effects” in economic vocabulary. The costs were overlooked by consumers but experienced by the public health care structure. The increased prices and tax that emanated from them were advanced as a method of decreasing consumption of the related foods. This resulted in decreased health care costs and improved health for the total population which led to the public health care structure being restored to a favourable status (Petkantchin, 2013:1-2).

5.5 Opponents of the policy

Opposition to the implementation of tax on sugar-containing beverages and other products that contained sugar comprised the following (Petkantchin, 2013:2-3):

- “Administrative considerations”,
- “Loss of employment”,
- “Product substitution by consumers” and
- “Tax evasion due to classification anomalies”.

Finland categorised the tax base and it encountered tax evasion difficulties. In 2014, the elimination of tax on artificially sweetened beverages and SSBs was the major

reason Denmark encountered cross-border trade falsifications. It was the same reason Ireland abolished tax on SSBs and sugar-based products (Petkantchin, 2013:2-3).

The unpopular tax resulted in the government abandoning tax on certain products. It was challenging to determine the health impact in a limited period. The implementation of the nutritional tax was unfavourable and the impact of the tax was apparent. Denmark's experience provided other states that were in the course of initiating taxes on nutrition with a warning. The Minister of Finance in Denmark was precise and stated that "To tax food for public health reasons [is] misguided at best and may be counter-productive at worst" (Petkantchin, 2013:4).

Snowdon (2015) further argued that "no country has ever reduced obesity through taxation." Furthermore, "the scale of taxation that would be required to make even a dent [in] obesity rates would be so vast that any government that attempted it would not be in government for very long" (Snowdon, 2015).

Demand for delicious food was very inflexible and this attracted taxation on such foods. Denmark experienced that implementation of sugar tax was unpopular which supported the decision to abolish sugar tax (Snowdon, 2015).

5.6 Reasons for abolishing sugar tax

In April 2013, Denmark pronounced that it was abandoning the tax on SSBs and lowering the excise duties on beer. The tax on SSBs was decreased in July 2013, and then removed in January 2014 (Northern Ireland Assembly, 2015).

The country also cancelled a tax imposed on saturated fat and tax on products containing sugar. Tax at DKK1.64 per litre was imposed on SSBs. In 2012, the elimination of the tax emanated after the Danish Ministry of Taxation observed that "such taxes can become expensive liabilities for the businesses forced to become tax collectors on the government's behalf" (Lowman, 2016).

Denmark's tax ministry mentioned that the tax on saturated fat and tax on products containing sugar were not functional but resulted in expensive liabilities, specifically

when unhealthy foods were chosen to be taxed. Therefore, enterprises were compelled to act as tax agents on behalf of the government. Furthermore, the taxes were regressive, benefiting wealthier taxpayers and negatively impacting lower income consumers (Lowman, 2016).

The Treaty on the Functioning of the European Union (Part 3, Title II) stipulated the governing provisions for free movement of goods. The provisions excluded customs duties being imposed on goods exchanged between EU member states (European Commission, 2014:4-5).

A customs union was formed when a group of countries unified to use the same import duties or rates on goods received globally. The countries within that union made an agreement not to apply duties between themselves. As the goods were led through customs, they were instantly transferred freely between those countries within the customs union (European Commission, 2014:4-5).

Therefore, in Denmark, the removal of sugar tax created a benefit since the customs duties were not levied between the European Union countries. Denmark acquired a saving since it was no more liable for such duties (European Commission, 2014:4-5).

5.7 Other countries that abolished sugar tax

One of the first countries to introduce tax on sugar beverages was Ireland. In 1916, it imposed a levy on SSBs and amended it over the years. In 1992, the levy was eliminated. Ireland introduced a top-tier VAT rate which replaced the levy on SSBs. The principal objective of this tax was to create revenue. The government did consider reinstating the tax to alter the behaviour of consumers due to the health crisis in the community (Chaloupka et al., 2019).

The implementation of tax on sugar-added drinks was imminent, noting the high rate of obesity in Ireland and the upsurge of type 2 diabetes. In previous years, there was a consistent focus on the adverse effect that fat had on health. Consequently, there was aggressive attention placed on the effects sugar had on the community's well-being (Houghton et al., 2018).

Tax on sugar was a substantive tax on SSBs that was prominent and had a positive impact. The imposition sugar tax on SSBs was supported by a movement in the confectionery sector but had the inadvertent outcome of limiting the intake of high-calory sweets. This potentially resulted in the reduction of obesity (Houghton et al., 2018).

The effort in maintaining profits without increasing the price was noted by several manufacturers that, for example, reduced the size of chocolate bars called 'shrink inflation'. Thus, consumers continuously paid the same price but for fewer calories (Houghton et al., 2018).

Ireland eliminated the tax on foods that contained sugar and SSBs in 2015. The Finance Ministry stated that the tax was abolished to advantage households and streamline the tax structure. Various countries contemplated implementing levies on SSBs and other foodstuffs, raising concerns about these foodstuffs being unhealthy. The idea was rejected, ensuing open debates. In 2010-2011, other countries, for example Romania, did consider implementing taxes on fast food and SSBs. The taxes were not implemented due to the complexity of executing the levies and the risk in loss of employment (Lowman, 2016).

5.8 Conclusion

Denmark imposed tax based on the mass or quantity of an item, instead of imposing the tax based on the quantity of sugar included in the produce. Finland and Hungary were among countries that imposed tax based on the saturated fat and tax on products containing sugar. Produce that fell below specific limits were excluded from tax, while various rates were imposed on specific produce (Petkantchin, 2013:1-3).

Snowdon (2015) claimed that tax on sugar and on saturated fat were only successful in raising money for the government. The taxes were ineffective in dissuading the people of Denmark from purchasing foodstuffs that were full of fat. Furthermore, that it raised more income than expected. These taxes were disproportionate and mainly paid by people with low income. This encouraged and led the aggressive socialists and classical liberals to unite and oppose the taxes.

CHAPTER 6 - CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The crisis of obesity produced an uncommon alliance of opinion, that is a wide-ranging coalition of concerned individuals and groups that confronted what they perceived as a major health problem. It included selection of medical experts, social commentators, media analysts, politicians and parents concerned about protecting their offspring from the patterns of behaviour that resulted relentlessly in being obese.

People should form a healthy relationship with food, particularly sugar and SSBs (Walvin, 2017). The problem of obesity is evident and indisputable each day in public life. Medical professionals are confronted with the challenge to manage the consequences of obesity, which has resulted in an impact on the health system (Walvin, 2017).

Obesity is a pandemic and a challenge that threatens the health system of most countries. Sugar tax was introduced globally to reduce the health hazard caused by sugar-added foodstuffs and improve the health of the communities. Sugar tax, like other taxes, must be equitable and fair. It was submitted that to comply with the "principle of equity and fairness", sugar tax should

> Firstly, outweigh the financial burden for lower-income households. Secondly, be regarded as fair if it [does] not only tax certain food or drink products, but all products containing sugar. Thirdly, provide an incentive to manufacturers to reformulate their products to contain less sugar (Lombard et al., 2020:76-77).

South Africa, USA, Mexico, and Denmark were concerned about the prevalence of obesity and NCDs which were linked to the excessive consumption of SSBs. In the USA and Mexico, there was an increase of sales of SSBs, but there was an insignificant effect on the actions of consuming SSBs. In USA, Mexico, South Africa and Denmark it was submitted that fiscal measures were introduced to correct the health behaviour and curbing obesity. This was consistent with the WHO's recommendations to utilise subsidies, taxes and other mechanisms to alter the behaviour of the communities. The WHO particularly recommended mechanisms to

“Incentivise healthier behaviours … Improve affordability of healthier food options … Encourage consumption of healthier options … Discourage consumption of less healthy options” (WHO, 2014).

6.2 Imports and exports

South Africa has strict measures at the ports of entry and based on solid customs regulations formed to enact an HPL. The customs policies are reviewed regularly. Denmark had a porous cross-border system, and this resulted in the country abolishing sugar tax because people were able to purchase similar goods at a lower price in the neighbouring country such as Germany. However, Denmark derived a benefit after it abolished sugar tax since no liability was created because free trade was encouraged between the EU countries and no import duties were levied.

6.3 Recommendations by other researchers

6.3.1 Policy design

The “principles of a good sugar tax system” should be established on a conceptual framework that clearly defines the “design type”, “taxable unit”, “tax base” and a “tax rate” of a tax structure (Lombard et al., 2020:85).

Annexure IV presents the tax principles of a good sugar tax system.

The design type of a tax on sugar structure that Mexico and the USA adopted was that of applying a flat levy on the entire range of SSBs. The reason for adopting this design type was its simplicity to administer for producers and consumers. There was no enticement for producers to modify their produce in a healthy form and the tax was sifted effectively to the consumer (Lombard et al., 2020:73-74).

South Africa adopted the tax-free minimum sugar threshold method. The method motivated producers to modify their produce and remain under a healthy threshold. The disadvantage of this method was the high incurrence of administrative costs. The threshold should be amended in future to guarantee that income produced from excise

tax was maintainable since majority of the manufactures would reformulate their products in forthcoming years (Lombard et al., 2020:73-74).

Annexure III indicates various designs of international sugar tax structures.

Denmark introduced sugar tax and there was an increase in revenue collected from the tax. The tax had little impact on the obesity epidemic and the intake of SSBs. The tax was abolished one year after its introduction. The objective and actual purpose of introducing sugar tax in Denmark was revealed to be that of revenue improvement.

The large manufacturers and other companies in the industry were collecting the excise taxes on behalf of the government, and this placed an administrative burden on the companies. The cost of administering the tax was high and part of the reason sugar tax was abolished.

Tax on sugar was alleged to be inequitable and unreasonable when imposed specifically on SSBs. In Annexure III, as per the international tax system, it was evident that the most reasonable and impartial option was that of imposing tax on non-alcoholic beverages with added sugar, excluding milk products and 100% fruit juices. The option was formulated on the principle that milk products and 100% fruit juices provided nutritional benefit as compared to SSBs that provided no nutritional benefit (Lombard et al., 2020:79).

A well-designed tax system and financial support could change the purchase, consumption and prices of targeted foods, notwithstanding the insignificant influence on health and total diet. The impact should be maximised by introducing ideal tax needs on a significant geographical range, formed with advanced thresholds for the specific nutrients and encompassing a wide scale of non-essential foodstuffs that are poor in nutrition and energy-dense (Thow et al., 2018).

It is essential to increase awareness of the obesity challenge in South Africa, along with SSB policies and the increased rate of SSB intake. The principle is to complement the justifications supporting the tax policy in the country as another method to reduce

the epidemic of obesity. Public information and knowledge is key in the implementation process (Bosire et al., 2019:1-3).

Sugar tax was introduced as a policy tool to reduce the consumption of SSBs. Another strategy should be formulated to complement sugar tax, namely a multi-prolonged behaviour change strategy. This strategy could have both environmental and individual levers to reduce the consumption of SSBs and its associated risks (Bosire et al., 2019:2-5).

In Mexico, tax applied to soft drinks was not successful in decreasing obesity, but effective in escalating the prices of the items and generation of income. The consumers responded to the change in prices four years after they were introduced, but they reverted to their initial behaviour of consuming excessive SSBs. There was an insignificant impact on consumers migrating to less expensive produce or those with similar caloric quantity, which formed the reason for the insignificant changes of each household's total energy intake (Desk, 2018).

Desk (2018) submitted that the achievement of tax was non-existent as a mechanism to alter the intake of health-related produce. Additionally, when tax on SSBs was introduced, the consequences to lower-income communities were that the level of consumption was low. Furthermore, the economic status of the same community was negatively affected.

6.3.2 Food labelling

There should be an accurate Research sector encompassing a wider scale of nutrition and health claims that educate consumers but safeguard them against unprincipled vendors, and additionally to accommodate a precise method of confirming new claims (Sunley, 2018:30).

Sunley (2018:30) raised some questions that the government should consider and be able to respond comprehensively when formalising the regulation for food labelling on SSBs. One of the questions is as follows:

- “Is the children’s advertising section, albeit in a separate regulation, realistic and enforceable?”

Sunley (2018:30) further stated that “if these concerns have been addressed, we have the opportunity to implement a genuinely world-class piece of food legislation”.

Bosire (2019:1-4) conducted a study with the objective of reporting attitudes and perceptions of urban South Africans residing in the township of Soweto. The study focused on elements that contributed to the intake of SSBs in Soweto residents and on how the taxes were applied by South African government to decrease the intake of SSB. The following was noted:

> There was excessive consumption of SSBs across all ages, particularly teenagers. Most of the consumers did not have any knowledge about tax on SSBs, the impact that HPL had on consumers, on health and disabilities relating to the consumption of SSBs. The participants when made aware of the tax, they responded that sugar tax could and would not result in decreased SSB consumption. Furthermore, that inflation would not affect the rate of consumption of SSBs. However there was a scepticism among the people about sugar tax that South African government’s motivation of implementing sugar tax was not for health improvement but rather for increasing revenue collection and fund the corrupt activities (Bosire et al., 2019:4-7).

There was a recommendation that the income received from sugar tax be utilised towards the following (Bosire et al., 2019:1-4):

- SSBs vendors near the schools should provide healthy treats;
- The main billboards advertising SSBs should not include school names which could deceive school children that the advertised product is a healthy option;
- School curricula should include health risks of SSBs and educate the youth about the health hazard caused by SSBs;
- Health strategies, promotion and provision of health care services to sufferers of NCDs must be made public in-service points such as clinic, hospitals and other public areas;
- Restrictions should be imposed on fast food shops and products they sell;
- The price of healthy foods should be less than the price of unhealthy foods;
- Healthy foods should be accessible equally to everyone and local shops; and

- The so-called spaza shops be incentivised to sell healthy foods.

6.3.3 Dental health

The dental profession should integrate with other health specialists including nurses and doctors. Furthermore, they should integrate with the teachers in schools and health workers to educate and enlighten parents regarding the negative consequence that sugar has on the teeth of the entire household. Demonstrating good leadership and promotion by the dental profession in securing oral health promotion is a key element. Furthermore, the place of oral health within general health should be widely promoted. The additional revenue raised to reduce the negative health consequences of sugar should be applied to integrating the promotion of dental health into advancement of general health (Bedi, 2018).

Public knowledge regarding sugar tax should be improved and awareness intensively raised regarding the low energy and low nutritional value of SSBs. As a result, the negative perception of sugar tax would be eradicated and the tax would be regarded as fair (WHO, 2017:23).

Income received from tax on sugar-added beverages should provide a secure means of increasing revenue. Furthermore, successful collecting of taxes depends significantly on public tax-compliance. Therefore, to encourage the inclination of the public to comply and pay taxes, the public as taxpayers should be made aware that income collected from sugar tax was reserved for definite initiatives to improve health (Lombard et al., 2020).

6.4 Challenges in South Africa

SARS did not meet their targets in 2018, 2019 and 2020. Sugar tax contributes very little to the total revenue collected in the country. The minister of finance announced in the 2019 budget speech an increase in sugar tax and allocated a substantial amount to learning and development and health improvement.

There were perceptions that the income collected from taxes was employed to fund government's corrupt activities. The mismanagement of funds and the downward trend of the economy has led to an increase of these perceptions. This raised a concern that the objective of implementing tax on sugar-added beverages was to increase the revenue of the South African government. There is an increase of obesity and NCDs, which supports the view that insufficient effort has been made in improving South Africans' health.

According to WHO (2016), diet and healthy eating form a vital role in curbing obesity. The affluent and the middle class can afford to maintain a healthy lifestyle and healthy diet, gym membership and regular visits to the medical practitioners.

Mahode (2018:17) mentioned that South Africa was vulnerable to an increased rate of overweight and obesity. This was caused by various factors such as high intake of sugar, medications, childhood weight, genetics, low physical activity, and psychological factors of which several could not be superficially controlled.

There is a significant increase in the rate of unemployment and NCDs in South Africa. The unemployment rate and the NCDs are competing against each other. The South African government was compelled to improve the health South Africans in the long term thereby used sugar tax as a tool to reduce the consumption of SSBs. The sugar industry has suffered losses on short term employment due to the introduction of tax on SSBs (Chutel, 2019).

In 2020, South Africa's unemployment was affected by the global Covid-19 pandemic. The country was placed on lockdown which resulted in a great many businesses being negatively affected and compelled to retrench their workers. There was aggravated poverty while the majority of the people survived on social grants. The main concern and primary focus of the communities was to purchase basic foodstuffs, and for the government to provide them with basic service delivery including proper housing. It is this part of the population that consume excessive SSBs which are easily accessible for example in the local spaza shops.

Food is a large part of a family's budget in poor communities. Households identify methods to manoeuvring around food prices particularly SSBs. Consumers made alternatives and bought beverages containing less sugar with the purpose of improving their health for example consumers switched from purchasing Coca-Cola classic to purchasing Coke Light or Coke Zero. However, there was still an increase in the rate of NCDs (Snowdon, 2015).

The rate of obesity and the maintenance of a healthy lifestyle would be complex to confront. Healthy food is expensive and makes it difficult for many low-income households to make healthier food choices.

Medical aids and other insurance companies promote a healthy lifestyle by using a points system for their members whenever they make healthy choices for example, exercising, purchasing healthy food, maintaining a healthy Body Mass Index (BMI) and regular medical examinations. The points can be redeemed to get discounts on air tickets and holiday destinations. However, these can only be afforded by the affluent and the middle class and low- income earners would be unable to reach such benefits.

6.5 Recommendations

- Tax education should be offered as part of the school curricula.
- Parents should be educated on any sin tax that is introduced to assist them in saving money, budgeting and improving their financial status.
- Advertise on all media platforms including television and radio stations about sugar tax and the health hazard of consuming excessive SSBs.
- Breastfeeding mothers should be taught about the consequences of excessive consumption of SSBs.
- Adults and children should be educated together about purchasing SSBs and alternative options and the importance of drinking water.
- The labels of all SSBs containers should include warnings that excessive intake of the drink does increase obesity and NCDs such as diabetes, cancer, tooth decay, just as indicated on the box of tobacco or cigarette that smoking can cause lung cancer.
- The labelling must be clear and simple to assist in making healthier options.

- Genetically modified foods containing added sugar must be clearly labelled as such.
- Dentists should visit schools and community centres regularly and enlighten the community about oral hygiene and the health hazards of consuming excessive sugar.
- Visible mobile clinics should be available to promote general medical examinations thereby detecting the NCDs and curbing obesity at an early stage, in order to afford treatment and allow people to monitor their health status.
- Community health programmes should include town hall health talks regarding NCDs, obesity and excessive consumption of SSBs.
- Discourage aggressive marketing in school billboards which encourage students to purchase SSBs.
- Have health surveillance of any family member diagnosed with obesity and NCDs.
- Integrate into the promotion of the public health who can intermittently visit homes, especially the elderly and high-risk groups.
- Build more clinics in under-serviced areas.
- Subsidise the spaza shops to sell healthy foodstuffs to assist the people to purchase healthy foodstuff at a reasonable price.

It is recommended that the policy makers should channel the perceptions of consumers and embark on the following initiatives:

- The value in honouring tax payment. The funds generated from collecting taxes is utilised by the government to fund government expenditure.
- Conduct health education particularly on the consumption of excessive SSBs.
- Consider aggressive health education for lower income earners including households with children.
- Include health education in the schools' curriculum and
- Sugar tax only will not reduce the rate of obesity and NCDs. A supplementary strategy must be introduced and formulated to change behaviour. This strategy should be multi-prolonged and could have both individual and environmental levers to decrease the intake of SSBs and the related risks (Bosire et al., 2019:2-5).

6.6 Conclusion

Sugar tax was introduced in South Africa and effected in April 2018. Sugar tax is at an early stage to identify its impact on consumer behaviour, businesses, employment and economic development.

Further research can be done to analyse the impact sugar tax has on employment, the consumers' behaviour, including how funds are allocated for health improvement. Lastly, the research will reveal how funds were utilised and whether people are making healthier choices, education of consumers particularly students in relation to health awareness to reduce the rate of NCDs and the impact of sugar tax.

ANNEXURE I

A table of the advantages and shortcomings of the various potential tax design options.

Table 4: Tax options – specific rates

Excise regime	Advantages	Disadvantages
1. Flat levy on all SSBs. **(e.g. R 2.00 per litre of SSB)**	▪ Easy to administer, ▪ Capture all SSBs, including those with lower sugar content.	▪ Tax low sugar content SSBs at the same rate as high sugar content SSBs. ▪ No incentive for manufacturers / consumers to decrease tax liability by shifting to lower sugar content SSBs.
2. Levy based on absolute sugar content. **(e.g. R 0.02 per gram of sugar contained in SSBs)**	▪ Closest proxy for targeted external harm ▪ Provides incentive for manufacturers / consumers to decrease tax liability by shifting to lower sugar content SSBs.	▪ Administratively slightly more complex.
3. Threshold approach **(e.g. R0.04 per gram of sugar above 5 grams per 100 ml of SSB)**	▪ Provides incentive for manufacturers / consumers to decrease tax liability by shifting to lower sugar content SSBs.	▪ Administratively more complex. ▪ Need to adjust the threshold over time.

Source: National Treasury (2016)

ANNEXURE II

Countries that implemented sugar tax and the dates of implementation.

Countries	When introduced	Type of tax	Tax design	Tiered?
American Samoa	2001	Specific excise for locally produced beverages; plus import tax	Volumetric (specific excise)	
Bahrain	2017	Value-added tax		
Barbados	2015	Ad valorem		
Belgium	2016	Specific excise	Volumetric	
Bermuda	2018	Ad valorem		
Brunei	2017	Specific excise	Volumetric	
Chile	2014	Ad valorem		YES
Cook Islands	2014	Specific excise	Sugar content	
Domenica	2015	Specific excise	Sugar content	
Ecuador	2016	Specific excise	Sugar content	YES
Estonia	2018	Specific excise	Sugar content	YES
Federated States of Micronesia	2004	Import tax		
Fiji	2016	Specific excise for locally produced beverages; ad valorem for imported	Volumetric (specific excise)	
Finland	2011	Specific excise	Volumetric	
France	2017	Specific excise	Sugar content	YES
French Polynesia	2002	Specific excise for locally produced beverages; plus import tax	Volumetric (specific excise)	
Hungary	2011	Sales tax	Volumetric	
India	2017	Increased rate of Goods and Services Tax		
Republic of Ireland	2018	Specific excise	Sugar content	YES
Kiribati	2014	Ad valorem		
Latvia	2004	Specific excise	Volumetric	
Republic of the Marshall Islands	2004	Import tax		
Malaysia	2019	Specific excise	Volumetric	
Mauritius	2016	Specific excise	Sugar content	
Mexico	2014	Specific excise	Volumetric	
Nauru	2007	Import tax		
Norway	2018	Specific excise	Volumetric	
Oman	2019	Ad valorem		
Peru	2018	Specific excise	Sugar content	YES
Philippines	2018	Specific excise	Volumetric	YES
Portugal	2017	Specific excise	Sugar content	YES
Qatar	2019	Ad valorem		
Samoa	1984	Specific excise	Volumetric	
Saudi Arabia	2017	Value-added tax		

SOURCE: Obesity Evidence Hub (2021)

ANNEXURE III:

The various designs of international sugar tax structures.

Table 3. Design types of international sugar tax systems.

	Countries in which this design type is implemented	Application of the sugar tax system	Advantages	Disadvantages
Design type 1	France, Barbados, United States of America, Mexico and Belgium	Flat levy on all SSBs	Easy administration for consumers and manufacturers (Healthy Caribbean Coalition [HCC], 2016, p. 28)	No incentive to manufacturers for reformulating their products in a healthier way; usually not as effectively passed through to the consumer (Bonnet & Réquillart, 2011, p. 25)
Design type 2	Hungary, Finland, Pacific Islands and Territories, Portugal, Norway and Mauritius	Each gram of sugar is taxed per SSB	Effective in altering consumer behaviour, since it taxes a beverage based on its sugar content and is not simply levied at a fixed rate (WHO, 2017, p. 9).	The specific excise taxes must be adjusted on an ongoing basis to take inflation into account (McDonald, 2015, p. 2; WHO, 2017, p. 9)
Design type 3	Chile, Ireland, United Kingdom and South Africa	Tax-free minimum sugar threshold	Encourages manufacturers to reformulate their products in order to stay below what is considered a relatively 'healthy' threshold (SADNT, 2016a, p. 15; UK: HMRC, 2016).	High administrative costs, but would be ideal in a developed country that has the available infrastructure (SADNT, 2016a, p. 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; SADNT, 2016a: 25; UK: HMRC, 2016).

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 5 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
South Africa	#3	Manufacturer	All non-alcoholic beverages containing added sugar. Exempt items include unsweetened milk, milk products, pure fruit and vegetable juices and medicinal products	Percentage: Sugar content exceeds 4 g per 100 ml: 10%	Collected as an excise tax through existing excise tax structures and paid monthly

[1]% of value of beverage based on the sugar content of a one litre Coke
Source: Compiled by the researcher

Source: Lombard and Koekemoer, (2020:66)

ANNEXURE IV:

The tax principles of a good sugar tax system.

Tax principles of a good sugar tax system as identified in Section 3.2	(design type, taxable unit, tax base, tax rate, tax period, and administrative provisions)
Equity and fairness:	
a) The sugar tax's health benefit must outweigh the burden for lower-income households;	Design type
b) A sugar tax is regarded as fair if it does not only tax certain food or drinks products but all products containing sugar; and	Tax base
c) The sugar tax must provide an incentive to manufacturers to reformulate their products to contain less sugar.	Design type, taxable unit
Simplicity and certainty	
a) The tax base must be kept as simple as possible;	Tax base
b) Taxpayers must be informed of the working of the sugar tax; and	Design type
c) Existing infrastructure must be utilised to simplify the administration of the sugar tax.	Tax period and administrative provisions
Efficiency and low administration costs	
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;	Design type, tax rate (pass-through rate), tax base (avoid substitution)
b) It should earmark the tax revenue for health- promotion initiatives; and	Design type
c) It should utilise existing tax infrastructure for the administration thereof.	
Transparency and accountability	
a) Governments must implement the sugar tax system in a transparent way by following a consultation process with all stakeholders; and	Design type
b) Governments must undertake to review the sugar tax system regularly in order to ensure its relevance.	Design type

Source: Compiled by the researcher

Source: Lombard and Koekemoer, (2020:90)

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