Evaluation of Ireland's Sugar-Sweetened Drinks' Tax (SSDT)

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Needless to say, all errors and omissions are entirely the responsibility of the authors.

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EXECUTIVE SUMMARY

Ireland introduced a modest Sugar-Sweetened Drinks Tax (SSDT) on the 1st of May 2018, with a subsequent expansion of the beverages covered at the beginning of 2019. Under the Obesity Policy and Action Plan 2016-2025, the Department of Health commissioned an independent evaluation of the SSDT. This independent evaluation set out to answer two key questions, was the SSDT successful in realising the following objectives: (1) that individuals reduce consumption of sugar-sweetened drinks by reducing the amount consumed or switching to healthier choices; (2) that industry reformulates products to reduce (not necessarily remove) levels of added sugar in the drinks products.

No baseline data upon which to evaluate the performance of the SSDT in Ireland was specifically collected when the tax was introduced. This research therefore examined a variety of sources, including existing research datasets, SSDT revenue, market research data, and primary data collection through an examination of the SSDT pass-through rate. The manufacturing sector for soft drinks in Ireland assisted in this research.

Market research data indicates a marked reduction in sugar consumption via carbonated soft drinks in the immediate aftermath of the introduction of the SSDT. It is unclear how much of this reduction was caused by industry reformulation of soft drinks and how much by consumers choosing lower sugar or sugar-free beverages. It is known that manufacturers have engaged in extensive reformulation of soft drinks in Ireland. Four of the five leading

carbonated soft drinks in Ireland for example, now fall below the SSDT rate. Although consumer preferences no doubt evolved over time to demand a healthier option, the SSDT can be credited with hastening the delivery of this reformulation. SSDT revenue collection data demonstrates a very slow decline over time since the implementation of the tax in 2018. Given the patterns evident in the range of data, the nature of this is highly suggestive that the SSDT has been successful in reducing sugar intake via soft drinks.

Examination of the SSDT pass-through rate indicates areas of concern. Two studies have now shown limited price differentials for the consumer between full sugar and diet versions of leading soft-drink products in both retail (off-site) and hospitality (on-site) settings. This reduces both the dissuasive pricing effect which may lead to consumers switching their choice to healthier options, as well as the potential signalling impact of the higher price differential caused by the SSDT.

INTRODUCTION

This report explores the impact of the Sugar-Sweetened Drinks Tax (SSDT) in Ireland. The report starts with background information on increasing obesity in Ireland, before exploring the nature of Ireland's SSDT, and how this policy sits within a global context. The following section then explores the mechanisms through which SSDTs may operate.

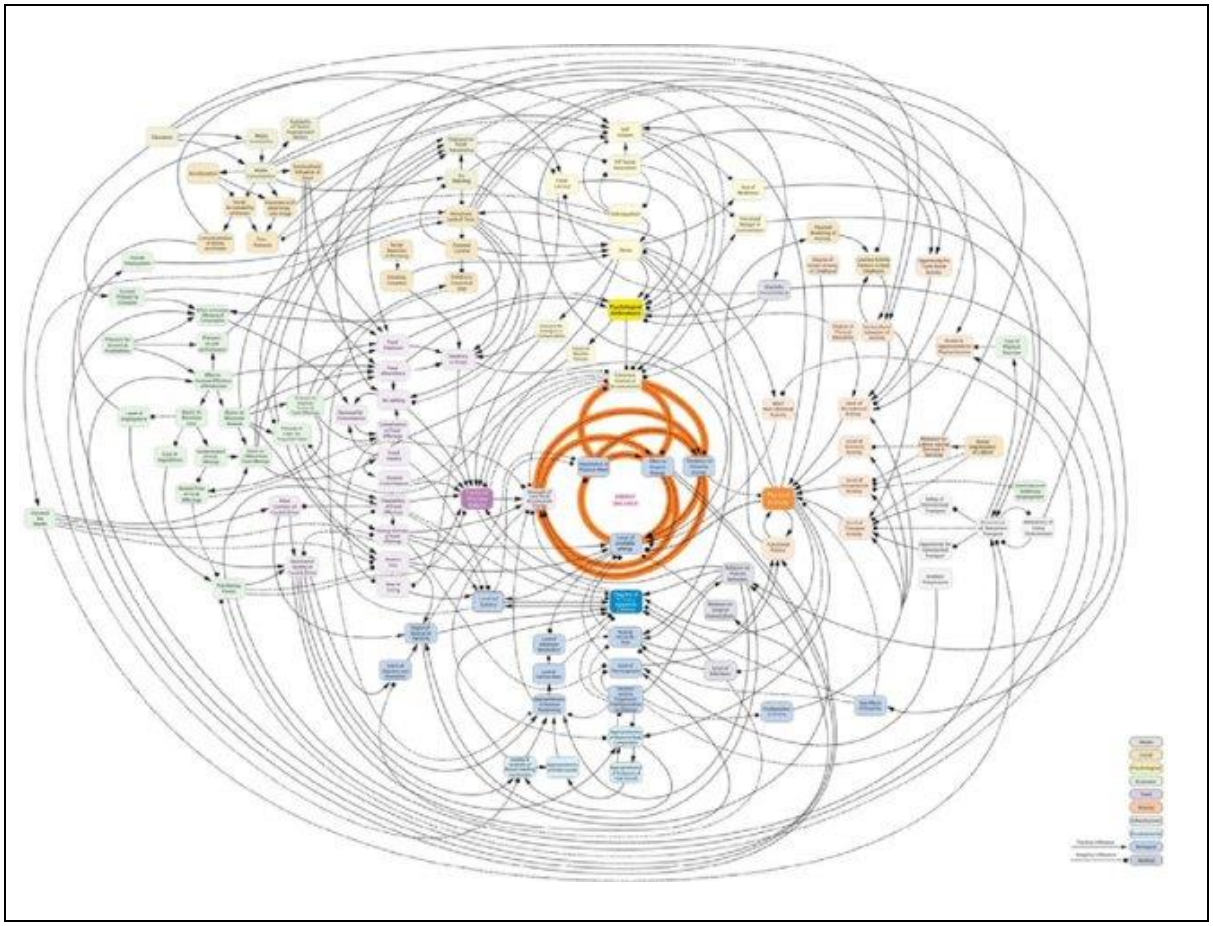
An Increasing Prevalence of Obesity & Overweight in Ireland

Ireland, like many other countries, is facing unprecedented levels of obesity (WHO, 2022; EU, 2024; OECD/European Observatory on Health Systems and Policies, 2021; Foresight, 2007). The WHO defines a body mass index (BMI) over 25 as overweight, and over 30 as obese. The prevalence of obesity globally almost tripled between 1975 and 2016 (World Obesity Federation, 2022). Recent Healthy Ireland reports indicate that somewhere between 21% and 23% of the Irish population are living with obesity, with a further 35% to 37% living with overweight (Healthy Ireland, 2019; 2022). Thus more than half of the Irish population are living with excess weight. Indicators suggest that the rates of obesity are set to continue to rise in Ireland (Donovan & McNulty, 2023), with predictions of obesity levels in Ireland rising to 47% by 2035 (WOF, 2023). There is a distinct socioeconomic gradient to overweight and obesity in Ireland and such inequalities are evident not only in adults, but in adolescents as well (Moore Heslin et al., 2023; Swinburn et al., 2013; Mitchell, 2020). Obesity and overweight are linked to a wide range of non-communicable diseases (NCDs), including both cancer and osteoarthritis, as well as diabetes and cardiovascular disease (CVD) (WHO, 2024). As well as the health impacts of obesity, there are considerable costs in terms of healthcare utilisation, medication costs, and productivity costs through absenteeism and premature mortality (Dee et al., 2015; Perry et al., 2012). Sugar intake is linked

to obesity (Faruque et al., 2019; Bray et al., 2004; Havel, 2005), as well as poor dental health (Moynihan, 2016; Hujoel et al., 2017).

It is widely agreed that the causes of obesity and overweight are complex. The well-known Foresight (2007) Obesity Systems Map captures much of the complexity of the inter-relationships involved (see Figure One). Within this map, individual elements have been clustered into the following ten domains: Media; Social; Psychological; Economic; Food; Activity; Infrastructure; Development; Biological; and Medical.

Figure 1: Foresight Obesity Systems Map



Acknowledging the need for more coordinated responses, the Irish Government developed Healthy Ireland: A Framework For Improved Health and Wellbeing 2013 – 2025. Specifically in response to the growing threat of obesity on population health, the Irish Government announced the introduction of a sugar levy in its 2016 Obesity Policy And Action Plan (OPAP; Department of Health, 2016). This action was just one of 60 actions designed to tackle obesity contained in the OPAP.

Ireland's SSDT

A Sugar Levy is often formally referred to as a Sugar-Sweetened Drinks Tax (SSDT), or a Sugar-Sweetened Beverage Tax (SSBT). However, in laypeople's terms, it is more commonly simply referred to as a Sugar Tax. The WHO, and other allied groups, are highly supportive of SSDTs as a cost-effective fiscal lever to help prevent rising levels of obesity and overweight globally (Obesity Evidence Hub, 2024; World Health Organization, 2022b; 2022c). The WHO states that SSDTs 'represent a win-win-win strategy: a win for public health (and averted healthcare costs), a win for government revenue, and a win for health equity' (WHO, 2023).

Like many other countries, Ireland has increasingly turned to legislative means to promote public health (MacMaoláin, 2019). Ireland is reported to have been the 36th country to implement an SSDT (Crosbie et al., 2022). After its announcement in 2016, Ireland introduced its SSDT in May 2018 (Government of Ireland, 2018). The date of its introduction was slightly delayed to coincide with a similar tax being introduced across the UK. The pause in its introduction was designed to respond to concerns from retailers in the border counties of Ireland who argued the SSDT might lead potential customers to cross the border into Northern Ireland to purchase goods (O'Sullivan, 2013).

The products covered under Ireland's SSDT are detailed in Table 1. It should be noted that the scope of Ireland's SSDT was amended on 1 January 2019, via the Finance Act 2018, to include certain plant protein drinks and drinks containing milk fats (Revenue Commissioners, 2021).

Table 1: Products Covered Under Ireland's SSDT

Taxable sugar-sweetened drinks

What products are taxable?

Ready-to-consume drinks are liable to Sugar-Sweetened Drinks Tax (SSDT) if they satisfy three criteria:

- They are classified within particular headings of the Combined Nomenclature (CN) of the European Union. The relevant headings, CN 2009 and CN 2202, cover juices and water and or juice-based drinks.
- They contain added sugar.
- The total sugar content of the drink must be five grams or more per 100 millilitres.

Up to 01 January 2019, plant protein drinks and drinks containing milk fats, that fall within CN Code 2202, were specifically excluded from the scope of SSDT.

From 01 January 2019, these drinks continue to be excluded from taxation if they satisfy a minimum calcium content threshold. These drinks are not subject to SSDT where labelled information indicates a calcium content of at least 119 milligrams per 100 millilitres.

Examples of liable ready-to-consume sugar-sweetened drinks within CN Code headings 2202 and 2009 include:

- flavoured waters
- carbonated drinks
- energy or sports drinks
- juice-based drinks
- drinks containing milk fats with less than 119 milligrams of calcium per 100 millilitres (from 01 January 2019)
- soya, cereal, seed or nut-based drinks with less than 119 milligrams of calcium per 100 millilitres (from 01 January 2019)

with added sugar and a total sugar content of five grams or more per 100 millilitres.

Specific products falling under CN 2202 subheadings are excluded from liability. These include:

- alcohol-free beers and wines

- products labelled as food supplements.

In addition, any products excluded from EU food labelling obligations on the basis of their small-scale production are not liable to the tax.

Concentrated Sugar-Sweetened Drinks are solid or liquid substances that require preparation to produce ready-to-consume drinks.

Preparation involves the addition of one or more of the following to the concentrated substance, in accordance with manufacturers' instructions:

- water
- ice
- carbon dioxide.

Concentrated products are liable to SSDT according to the same criteria as ready-to-consume drinks.

Examples of concentrated Sugar-Sweetened Drinks include:

- concentrated products intended for preparation at catering level to produce ready-to-consume drinks that are supplied directly to final consumers. Examples are post mix concentrates supplied to cinemas and restaurants.
- concentrated products intended for 'home' preparation to produce ready-to-consume drinks. Some examples are bottled squashes, cordials and flavoured syrups.

The exclusions from scope of the tax that apply to ready-to-consume drinks also apply to concentrated products.

(Source: Revenue Commissioners, 2021)

Table 2 details the current SSDT rate in Ireland. Although the initial proposals from the Minister for Health in 2011 proposed a 10% tax on sugar-sweetened drinks (Briggs et al., 2013), the levy introduced was more modest. The amounts charged equate to approximately 8 cents on a standard 330ml can at the highest rate, and 5 cents a can at the lower tax rate.

Table 2: SSDT Rate in Ireland

Rate of tax
Sugar-Sweetened Drinks Tax (SSDT) applies on a volumetric basis at one of the following rates:

- €16.26 per hectolitre on drinks with a total sugar content of five grams or more, but less than eight grams, per 100 millilitres.
- €24.39 per hectolitre on drinks with a total sugar content of eight grams or more per 100 millilitres.

These rates are dependent on the total sugar content of the 'ready to consume' form of the sugar-sweetened drink.

(Source: Revenue Commissioners, 2021)

SSDTs Globally

The WHO (2023) recently reported that as of mid-2022 at least 108 countries apply some form of national-level excise tax on SSDs/SSBs. However, the figure may be higher, as Ireland is one example of a country for which no data was included in this global report. A significant body of evidence has noted that SSDTs can result in both price increases and reductions in sugar intake from soft drinks (WHO, 2023; White et al., 2023; Colchero et al., 2016; Andreyeva et al., 2022).

Many different models of SSDT have been implemented globally (WHO, 2017; 2023). Lombard & Koekemoer (2020) have produced a typology of SSDTs. As can be seen from Table 3 Ireland's SSDT is explicitly mentioned as the third type which is based on having a tax-free threshold. It is interesting to note that this form of tax is explicitly described as encouraging manufacturers to reformulate their products.

Table 3: Design Types of International Sugar Tax Systems

Design	Example countries in which this design type is implemented	Application of the sugar tax system	Advantages	Disadvantages
Type 1	France, Barbados, USA, Mexico & Belgium	Flat levy on al SSBs	Easy administration for consumers and manufacturers (Healthy Caribbean Coalition, 2016)	No incentive to manufacturers to reformulate their products in a healthier was; usually not as effectively passed through to the consumer

				(Bonnet & Réquillart, 2011)
Type 2	Hungary, Finland, Pacific Islands & Territories, Portugal, Norway & Mauritius	Each gram of sugar tax is priced 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)	The specific excise taxes must be adjusted on an ongoing basis to take inflation into account (McDonald, 2015; WHO, 2017)
Type 3	Chile, Ireland, UK & 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, 2016; UK HMRC, 2016)	High administrative costs, but ideal in a developed country that has the available infrastructure (SADNT, 2016). 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 predicated that most manufacturers will reformulate their products (MacDonald, 2015; SADNT, 2016; UK HMRC, 2016)

(Source: Lombard & Koekemoer, 2020: 73)

In their analysis, Lombard & Koekemoer (2020) also outline the important tax principles of ideal sugar tax systems. As can be seen from Table 4, as well as once again discussing incentivising reformulation, the issue of hypothecation is mentioned: '*It should earmark the tax revenue for health promotion initiatives*'.

Table 4: Tax Principles of a Good Sugar Tax System

Equity and fairness

a) The sugar tax's health benefit must outweigh the burden for lower-income households
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
c) The sugar tax must provide an incentive to manufacturers to reformulate their products to contain less sugar.

Simplicity and certainty

a) The tax base must be kept as simple as possible;
b) Taxpayers must be informed of the working of the sugar tax; and
c) Existing infrastructure must be utilised to simplify the administration of the sugar tax.

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;
b) It should earmark the tax revenue for health promotion initiatives; and
c) It should utilise existing tax infrastructure for administration.

Transparency and accountability

a) Governments must implement the sugar tax system in a transparent way by following a consultation process with all stakeholders; and
b) Governments must undertake to review the sugar tax system regularly in order to ensure its relevance.

(Source: Lombard & Koekemoer, 2020: 71)

How Does an SSDT Work?

SSDTs are an established fiscal lever to increase the price of sugar-sweetened drinks and reduce sugar consumption internationally (WHO, 2023; White et al., 2023; Colchero et al., 2016; Andreyeva et al., 2022). An SSDT may work in a variety of ways, potentially impacting both demand and supply of sugar-sweetened drinks. From a demand perspective, an SSDT may work through three distinct mechanisms.

1. In the first instance an SSDT should make sugar-sweetened drinks more expensive, and therefore less appealing and accessible.
2. The second mechanism through which an SSDT may act as a disincentive is informed by rational choice theory and suggests that causing the sugar-sweetened drink to be more expensive than its no or

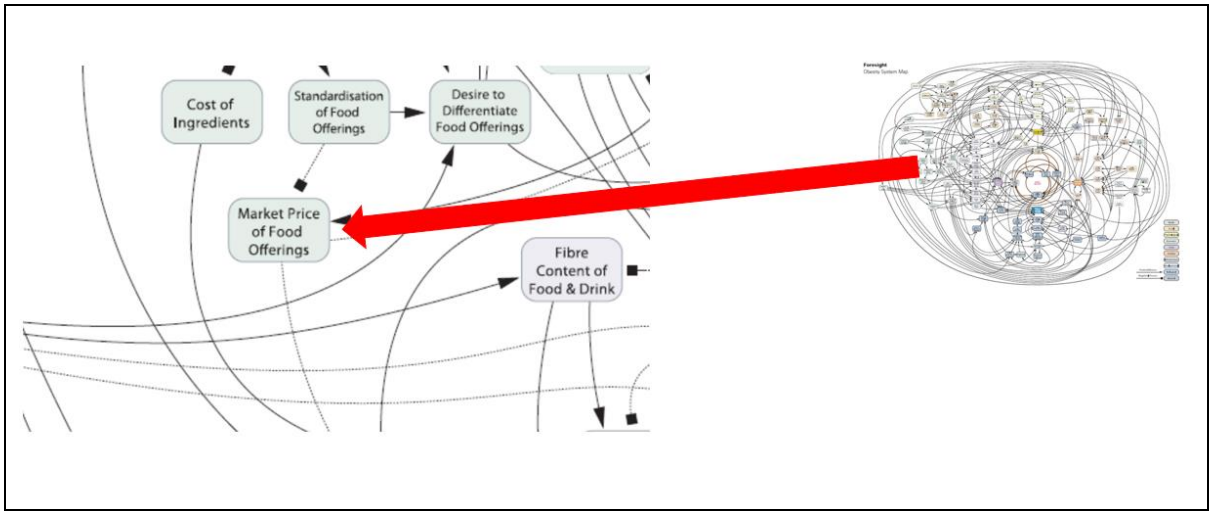
low-sugar alternative will cause people to opt for the cheaper alternative.

3. Additionally, the higher price may act as a signal to a potential purchaser and remind them of the negative health consequences associated with such a purchase.

All three of these mechanisms are reliant upon several key factors. In the first instance, most or all of the SSDT must be passed on to the customer to pay, rather than this cost being absorbed by the manufacturer or retailer (Marriott, 2018; NZ Institute of Economic Research, 2017). Secondly, zero or low-sugar options must remain cheaper than higher-sugar drinks that are subject to the SSDT. If for example, a retailer opts to increase the price of a 330ml can of a high-sugar soft drink by 8 cents, as per the SSDT, while at the same time also increasing the price of an equivalent can of the diet or low-sugar version of that drink by the same amount, then this potentially dissuasive mechanism cannot function. Finally, the second mechanism through which a person 'switches' their choice from a higher sugar version of their preferred soft drink, to a lower or no sugar version of their preferred brand, is reliant upon that variant also being available at that location.

As can be seen from Figure 2, an SSDT impacting the cost of sugar-sweetened drinks is just one discrete factor in the wider Obesity System Map developed by Foresight (2007).

Figure 2: The SSDT Price Mechanism Within the Wider Obesity Systems Map

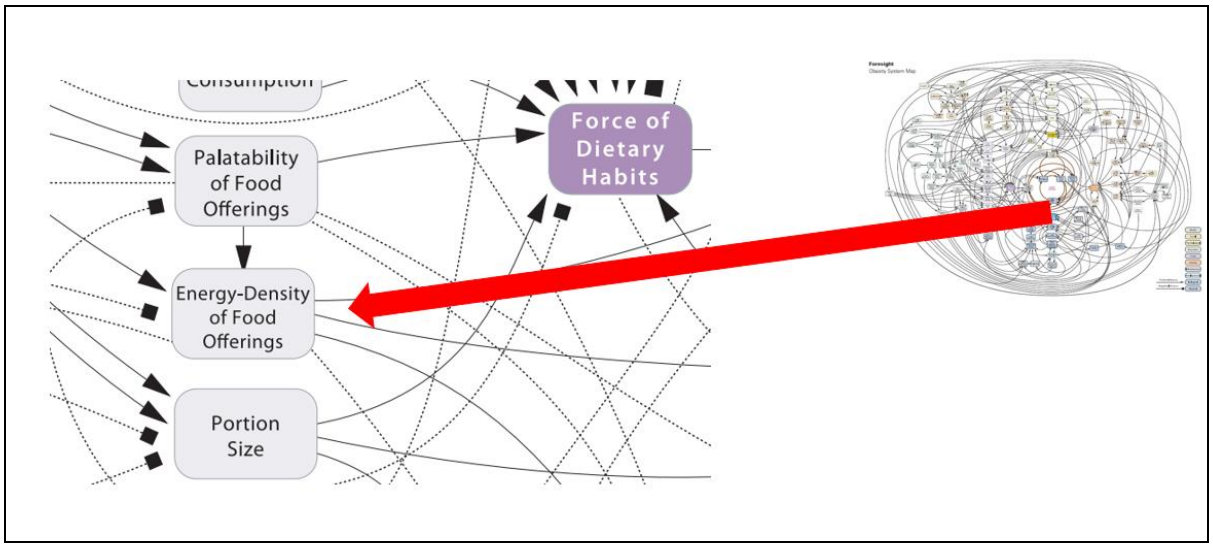


Reformulation by manufacturers of soft drinks to below the tax threshold of 5g of sugar per 100ml is another factor through which SSDTs can positively impact consumers. As the WHO (2023: 11) notes:

> *Excise taxes applying different rates to SSBs based on their sugar content may incentivise consumers to substitute to alternatives with lower or no sugar content while encouraging industry reformulation (less sugar content), provided that no SSB is exempted.*

Such reformulation by industry to reduce sugar content reduces the energy-density of food and drink offerings (Scarborough et al., 2020; Chu et al., 2020; Hashem et al., 2019; Stacey et al., 2019).

Figure 3: SSDTs May Impact Reformulation & Hence Energy Density Of Drinks



As well as the reformulation of existing products, SSDTs may also impact the formulation of future products to be brought to market.

Ireland endorsed the EU's Roadmap for Action on Food Product Improvement (EU, 2016) and published a "Roadmap for Food Product Reformulation in Ireland" in 2021.

The Roadmap states:

> *It is now understood that food reformulation is a critical element in achieving population nutrient goals consistent with the prevention of obesity and chronic disease and the promotion of health and wellbeing.* (Government of Ireland, 2019: 5)

The Roadmap sets targets for the reduction of calories and sugar by 20% and salt and saturated fat by 10% between 2015 and 2025, across a range of food products. The Food Reformulation Task Force is a strategic partnership between Healthy Ireland and the Food Safety Authority of Ireland. It was

established to implement the Roadmap and to work with industry to both drive and monitor progress on reformulation.

Reformulation of food and drinks to improve health also features in the European Commission's (2020) *Farm to Fork Strategy*, and Ireland's *Food Vision 2030* (Government of Ireland, 2021). Irish industry reports that it has been engaged in the reformulation of existing products, developing new products with reduced and no sugar, increasing the availability of smaller pack sizes, as well as increasing the promotion of products with reduced or zero sugar (Food Drink Ireland, 2018a; 2018b). Irish industry suggests that these innovations have been undertaken in response to changing consumer preferences.

Perspectives on the Proposed Introduction of the SSDT

The announcement of the forthcoming introduction of the SSDT was met by mixed responses. Advocacy groups such as the Irish Heart Foundation were extremely supportive (Pope, 2018). However, industry resistance to the introduction of the SSDT in Ireland was significant. Industry's thoughts on the issue are well summarised in the title of the Irish Beverage Council (2017) report which was released in the year before the levy was introduced into Ireland: *SSD Tax: All cost, No Benefit*. The IBC Irish attacked the SSDT citing a lack of evidence of the effectiveness of SSDTs, as well as arguing that the tax was regressive, inefficient, and inequitable. Industry also suggested that the SSDT would harm tourism and potentially infringe EU State Aid rules. The IBC also suggested the SSDT could potentially result in counterfeit products, illicit supplies, and increase cross-border shopping and smuggling.

As Abdool Karim et al. (2020) note these arguments have been used against SSDTs in the international arena repeatedly (Anaf et al., 2021; Fraser, 2018;

Asada et al., 2021). Insightful research has been conducted in Ireland in relation to the SSDT, such as Campbell et al.'s (2020) examination of Industry framing of debates, and Crosbie et al.'s (2022) examination of policy processes in the introduction of the SSDT.

THE EVALUATION

Under the Obesity Policy and Action Plan 2016-2025, the Department of Health commissioned an independent evaluation of the SSDT. This research report is based on an independent evaluation of the effectiveness of the SSDT in Ireland. The Department of Health set out the following outcomes of interest specifically to evaluate:

> *(1) that individuals reduce consumption of sugar-sweetened drinks by reducing the amount consumed or switching to healthier choices;*
>
> *(2) that industry reformulates products to reduce (not necessarily remove) levels of added sugar in the drinks products;*
>
> *Other impacts that the tax may have on public health as identified by recent studies, such as evaluations of dental outcomes and also the measurement of the impact on metabolic markers;*
>
> *Subgroup analysis focusing on the effect on groups such as those overweight/obese, children, lower income individuals/families.*

Ng et al. (2021) have explored some of the potential barriers that may be encountered when completing complex evaluations of SSDTs (See Table 5).

Table 5: Practical Challenges in Complex Evaluations

- Data Availability
- Time Pressures on Primary Data Collection
- Cost- Financial & Human Resources Required for Data Collection
- Political Acceptability (notability opposition from the political Right)
- Obtaining Conflict-Free Funding (i.e. no vested interests)
- Media Attacks by Vested Interests
- Communication of Evaluation Findings Beyond Academia

(Source: Ng et al., 2021: 8-10)

METHOD

This research adopted a mixed-methods approach, combining both qualitative and quantitative approaches, and aimed to conduct four complementary routes of exploration:

1) An in-depth period of desk-based documentary research examining the methods and outcomes of SSDT evaluations globally. The databases examined included PubMed, Elsevier's Academic Search Ultimate, ScienceDirect, Taylor & Francis, Sage Journals, and Oxford Academic.

2) Exploration, examination and where relevant & possible analysis of secondary data sources of possible relevance to an evaluation of the SSDT in Ireland, including data held by market research companies, retailers and fast food chains. The databases explored included: Health Behaviour of School Age Children (HBSC) Study data; Growing Up in Ireland Study data; Healthy Ireland survey data; National Teens Food Survey II (NTFS II) data; Household Budget Survey (HBS) data.

3) Quantitative sub-group analysis of secondary data sources.

4) Interviews with key Industry informants and stakeholders. The target sample focused on major retailers, leading soft-drink manufacturers, and industry representative bodies.

To increase the information available to assist this evaluation of the SSDT an additional element of primary research was included. This involved an examination of the SSDT pass-through rate in the Irish hospitality sector.

FINDINGS

No baseline data upon which to evaluate the performance of the SSDT in Ireland was specifically collected. Although several researchers had examined the SSDT in Ireland, most of these examinations were not focussed on exploring the outcome of the SSDT. One paper modelled the potential impact of an SSDT in advance of its introduction (Briggs et al., 2013). Two other papers addressed framing (Campbell et al., 2020) and policy process (Crosbie et al., 2022) associated with the introduction of the SSDT. Only one study of the pass-through rate of the SSDT in the Irish retail sector was relevant to the current investigation and this will be explored in more depth later (Houghton et al., 2023).

In the absence of such bespoke data, attention focussed on the potential of secondary analysis of existing data sets to answer this query. The datasets examined included:

- Health Behaviour of School-Age Children (HBSC) Study
- Growing Up in Ireland Study
- Healthy Ireland survey
- National Teens Food Survey II (NTFS II)
- Household Budget Survey (HBS)
- SSDT Data

Attempts were also made to explore other potential data sources, including efforts to identify potentially relevant Irish dental data (Hajishafiee et al.,

2023). A small study to collect data on the SSDT pass-through rate in the hospitality sector was also conducted as part of this evaluation.

It should be acknowledged that the outbreak of the COVID-19 pandemic, which impacted Ireland in the 2020-2022 period, may also have impacted sugar-sweetened beverage consumption patterns. This impacted consumption in the hospitality sector particularly acutely due to widespread temporary closures, but may also have impacted consumption associated with group sporting activities. This disruption serves to add a further degree of complexity to the evaluation. Ireland's rapidly rising population must also be considered in any evaluation of the SSDT.

HEALTH BEHAVIOUR OF SCHOOL AGE CHILDREN (HBSC) STUDY

It was initially hoped that the HBSC might be able to shed some light on the research questions. The HBSC is a comprehensive and well-respected source of information, that is well used for research and policy purposes (Költő et al., 2020). The HBSC has been described as '*a unique cross-national research study into the health and well-being of adolescents across Europe and North America, conducted in collaboration with the World Health Organization (WHO) Regional Office for Europe'* (HBSC, 2024).

It was acknowledged that the HBSC specifically focuses only on children and is based on cross-sectional waves of data, rather than a longitudinal design. However, as one round of data collection was in the 2017/18 period and there had been a subsequent round of data collected in 2022, it was deemed worthy of investigation.

However, discussions with the Health Promotion Research Centre at the University of Galway indicate that the data collection in Ireland is always skewed very late in the school year and it was not possible to differentiate data collected pre and post the SSDT implementation date of 1st May 2018. As such this data was not included in this analysis of the impact of the SSDT.

Data from the 2002 to 2018 iterations of the HBSC indicate that there was a significant drop in consumption in daily sugary soft drink consumption during this period. Daily sugary soft drink consumption fell from 37.4% of respondents to just 5.7%, a fall of 84.8% (Chatelan et al., 2022).

GROWING UP IN IRELAND STUDY

The Growing Up in Ireland (GUI) Study was explored as a potential source of relevant data. Longitudinal data has been used to explore the impact of SSDTs elsewhere (Lawman et al. 2020). Although GUI data is longitudinal, and therefore of particular interest, it ultimately proved to be of no real use in this examination.

The Growing Up in Ireland Study included a minimal and intermittent focus on the issue of sugar-sweetened beverage consumption. To complicate matters further, the sugared beverage questions evolved over time. Although this data is not particularly helpful in the current review, it does demonstrate consumption habits in general over a 15-year period which show an ongoing decline in non-diet carbonated drinks consumption. For further details on the

relevant results of the Growing Up in Ireland Study over the 6 waves please see Appendix 1.

Of particular interest may be changes over recent pre-SSBT and post-SSBT period in Wave 3 (2016) and Wave 6 (2021/2022). In Wave 3 21.9% responded that they had consumed a non-diet carbonated drink or cordial more than once in the preceding 24 hours. Although the question changes, a broadly similar question yields a figure of 4.1% in Wave 6. Similarly, responses to questions concerning more than once daily consumption of non-diet soft drinks between Wave 3 and Wave 6 may show a decline from 13.7% to 1.9%.

HEALTHY IRELAND SURVEYS

The Healthy Ireland Surveys were examined as a potential data source in connection with this examination of the impact of the SSDT. This data is cross-sectional, rather than longitudinal, and so is of limited use in this examination (the Tables have been included in Appendix 2).

IRISH UNIVERSITIES NUTRITION ALLIANCE (IUNA) DATA

This research explored the potential utility of a range of surveys that have been conducted by the Irish Universities Nutrition Alliance (IUNA). IUNA is an alliance of nutrition expertise, involving University College Cork, University College Dublin, Munster Technological University, Technological University Dublin, Ulster University, and the Queen's University of Belfast. A central focus of IUNA since its establishment has been the development of Irish national databases of dietary intake and health status through national nutrition surveys of the population.

National Teens Food Survey II

The National Teens Food Survey II (NTFS II) was examined as a potential data source in this project. This survey has provided important information in relation to the dietary habits of Irish teenagers (Daly et al, 2022a; 2022b; McGowan et al., 2022; Long et al., 2023). However, although one round of data was collected in 2019/20, quite soon after the introduction of the SSDT in Ireland, the earlier round was almost 15 years earlier, in 2005/6. This data was also cross-sectional in design and as such of limited use. In light of the extensive-time period between the first and second rounds of data collection on this project, this dataset was felt to be of no real use in this current examination of the impact of the SSDT.

However, in terms of building a comprehensive picture of existing Irish data on soft drink consumption, the following data from Irish Universities Nutrition Alliance (IUNA) reports was noted.

The results indicate that consumption of sugar from beverages has reduced in the time frame between surveys. Soft drinks were consumed by 58% of teenagers. Details of the breakdown between sugar-free and added-sugar soft drink consumption is given in Table 6. In the 2019-2020 administration of the NTFS (NTFS II) an average of 84g of sugar-sweetened drinks were consumed daily. This compares with an average daily intake of 213g of sugar-sweetened drinks in the first round of the NTFS

Table 6: Soft Drink & Energy Drink Intake in the NTFS II (2019-2020)

Soft Drink Type	**13 – 18 Years Old (n=428)**
Soft Drinks, of which…	58%
…Soft Drinks, added sugar	45%
…Soft Drinks, no added sugar	31%
Energy Drinks	7%

(Source: NTFS, 2021)

National Children's Food Survey II (NCFS II)

Although the NCFS was not felt to be of any particular relevance in this current examination of the impact of the SSDT, once again in terms of building a comprehensive picture of existing Irish data on soft drink consumption the following data was noted.

Soft drinks (with and without added sugar) were consumed by 67% of children in the 2017-2018 National Children's Food Survey II (NCFS II). The average daily intake in this round of administration was 160g. An average of 110g of soft drink intake came from no-added-sugar varieties, with 50g

coming from sugar-sweetened versions. Consumption of sugar-sweetened soft drinks was lower than in the National Children's Food Survey (NCFS) of 2003-2004, when the average daily intake was 252g (IUNA, 2020).

Both of these surveys clearly demonstrate the long-term decline in sugar-sweetened soft drink consumption in Ireland.

HOUSEHOLD BUDGET SURVEY (HBS)

Initial plans for this evaluation included accessing the Household Budget Survey data for Ireland. This longitudinal survey, based on the discrete level of households, could have potentially been very useful. This data can also offer a highly informative socio-economic perspective, as results are often described in terms of gross household income, broken down into deciles (i.e. 10 groups each consisting of 10%, ranging from the most advantaged in decile 1, to the most disadvantaged in decile 10). Such data has been used elsewhere to explore the impact of SSDTs (Claro et al., 2012; Teng et al., 2021). However, discussions with the CSO revealed that the post-SSDT implementation wave of the HBS was delayed because of COVID and is not yet available. This data is not expected to be available until the autumn of 2024.

Although the current data available is not of specific use for this examination, results from the 2009-10 and 2015-16 administration of the HBS are included as background information (see Tables 7 & 8).

Table 7: Soft Drink Consumption by Decile in the 2009-2010 Household Budget Survey (per week in Euro)

Gross Household Income Deciles (EUR)	Soft Drinks – not concentrated, Not Low Calorie	Soft Drinks- not concentrated, Low Calorie
1st Decile (<=238)	1.36	0.32
2nd Decile (- 381.12)	2.07	0.42
3rd Decile (- 498.88)	2.40	0.56
4th Decile (- 626.68)	3.12	0.70
5th Decile (- 784.68)	3.42	0.71
6th Decile (- 976.24)	3.81	0.77
7th Decile (- 1,218.10)	3.59	0.74
8th Decile (- 1,541.05)	3.86	0.84
9th Decile (- 2,047.67)	3.92	0.88
10th Decile (> 2,047.67)	3.89	0.97
STATE	3.14	0.69
	N= 278	N= 279

Table 8: Soft Drink Consumption by Level of Affluence/ Disadvantage in the 2015-2016 Household Budget Survey (per week in Euro)

Affluence/ Disadvantage Level	Soft Drinks – not concentrated, not low cal.	Soft Drinks- not concentrated, low cal.	Energy Drinks
Very affluent	0.89	0.45	0.22
Affluent	1.02	0.66	0.24
Average	1.10	0.59	0.24
Disadvantaged	1.12	0.55	0.29
Very disadvantaged	1.29	0.63	0.36
State	1.08	0.58	0.27

DENTAL HEALTH DATA

Research in other jurisdictions (Hajishafiee et al., 2023), including the UK, (Rogers et al., 2023) has attempted to determine the impact of SSBTs on oral health. Attempts were made to identify and obtain potentially relevant dental health data for Ireland. However, no useful population dental health surveys or other relevant and comparable data was identified for Ireland to assist in any evaluation of the SSDT.

SSDT REVENUE

The Department of Finance was approached to access data on SSDT revenue. The information provided indicates that in full years since the introduction of the SSDT has generated between 29.3 and 33 million euros per year (see Table 9). In total, over €170 million has been collected via the SSDT since it was introduced.

Table 9: Annual Revenue Raised Through the SSDT by Tier

Year	**€16.26 per Hectolitre**	**€24.39 per Hectolitre**	**Total SSDT**
	5g-7.99g per 100ml €m	**8g or more per 100ml €m**	**€m**
2018 (Part of)	1.8	14.5	16.3
2019	3.4	29.6	33.0
2020	3.5	27.8	31.3
2021	1.9	28.5	30.4

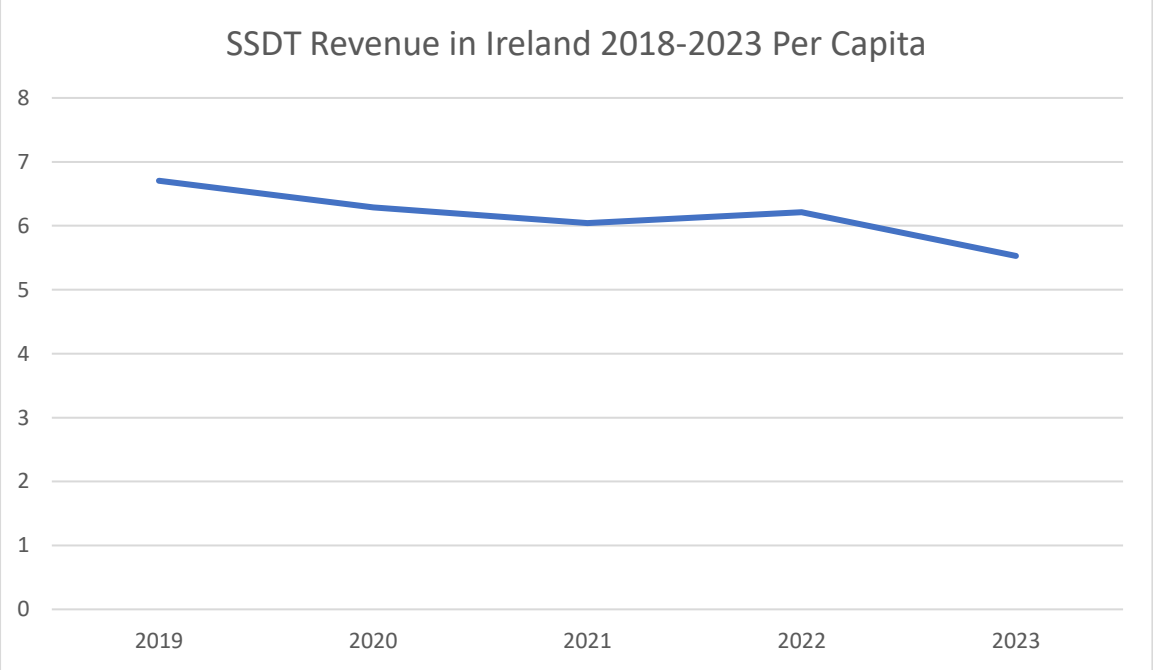
2022	0.6	31.4	32.0
2023	0.6	28.7	29.3

As can be seen from Table 12 there has been a degree of volatility in the total SSDT revenue and in that for the higher SSDT tier (8g or more sugar per 100ml). The picture is clear for the lower SSDT tier (between 5g and 7.99g of sugar per 100ml) where the evidence of a reduction is clearer.

The downward trend in overall SSDT revenue, and hence presumably in sugar-sweetened soft drink consumption in Ireland, is clearer in Figure 4.

The reduction in tax raised from the lower tier between 2019 and 2022 reflects two potential causes, reformulation of drinks and/or reductions in consumption of those drinks.

Figure 4: SSDT Revenue in Ireland in Euros Over Time Per Capita



RETAIL SALES/ MARKET DATA

A number of attempts were made to access relevant data through a range of potential sources. These included CSO data, Supermarket Customer Loyalty Data, as well as a range of potential Market Data companies.

CENTRAL STATISTICS OFFICE

Contact was made with the Central Statistics Office (CSO) in an effort to determine if their Retail Sales Index data was potentially useful in the context of this examination (CSO, 2024). However, discussion with relevant personnel clearly demonstrated that this dataset only provides detail at the macro level and nothing of any value in relation to this investigation could be gleaned from this source.

SUPERMARKET CUSTOMER LOYALTY CARD DATA

One mechanism through which the impacts of the SSDT can be examined is via supermarket customer loyalty card data. This approach has been used in the UK. Fearne et al. (2022) conducted such an analysis involving over 2 million households (representing 10% of all customers) from a leading UK supermarket chain. The advantages of such data and analysis are manifold. Such information can provide longitudinal weekly information on both prices and the quantities purchased broken down by geo-demographic segments. However, attempts to engage retailers in Ireland as part of this project were unsuccessful and therefore this data could not be used.

MARKET RESEARCH COMPANY DATA

Three leading market data companies were consulted in an effort to obtain relevant information that might shed light on the impact of the SSDT. One leading company was unable to locate adequate historical data prior to the introduction of the SSDT in 2018, while another was both prohibitively expensive and although they could identify sugar-free soft drinks and those with sugar, they were unable to differentiate sales into the 3 SSDT brackets (<5g per 100ml; 5-7.99g per 100ml; >8g per 100ml). Market information was eventually sourced from Euromonitor International Limited.

EUROMONITOR INTERNATIONAL NUTRITION DATA

Euromonitor International data is derived from a mixture of:

- Desk research- An examination and interpretation of public domain material
- Industry Specialisation- Dialogue with key players and examination of global research outputs.
- Company Analysis- Examination of global and local company data and accounts
- Trade Surveys- Discussion on data and dynamics with local industry
- Store Checks- Examinations which involve taking a first-hand view of places, products, prices and promotions
- Data Validation- Exhaustive audits and cross-referencing of data (Euromonitor, 2024)

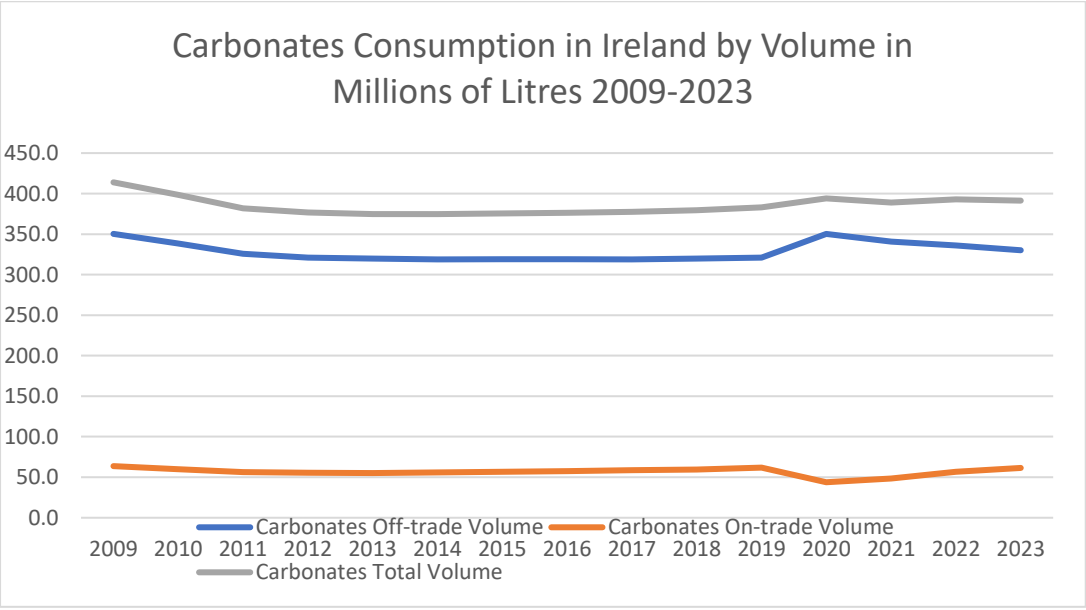
Euromonitor Ltd data has been well used internationally in prior examinations of sugar consumption and content relation to both beverages and food (von

Philipsborn et al., 2023; Bandy et al., 2021; Gearon et al., 2021; Pereda & Garcia, 2020; Basu et al., 2013; Vandevijvere et al., 2019). In their assessment of Germany's strategy to reduce sugar in drinks von Philipsborn et al. (2023: 282) state:

> *The Euromonitor Passport database is considered to be one of the most comprehensive and reliable sources for such data and has been used extensively in public health research, including studies on soft drinks sales and composition… For soft drinks, the database covers both off-trade sales (i.e., sales through retail outlets) and on-trade sales (i.e., through hospitality and catering outlets). Euromonitor uses an internationally standardized methodology, which allows for comparisons between countries and over time*

As can be seen from Figure 5 the volume of carbonated soft drinks consumed in Ireland from 2011 onwards has been static. The impact of the COVID-19 pandemic in driving off-trade rather than on-trade purchasing is evident, as is its slow return to pre-pandemic norms. This data covers full sugar and sugar-free beverages.

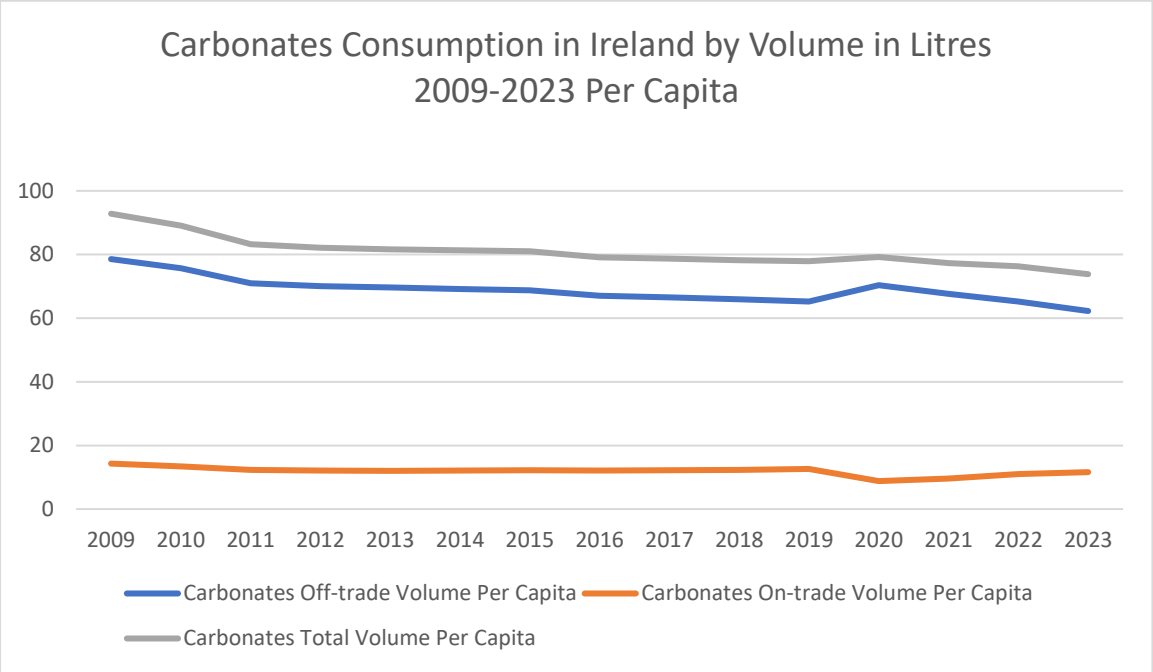
Figure 5: Carbonates Volume in Millions of Litres 2009-2023



Source: Euromonitor International Ltd

The data associated with this table may be seen in Appendix 3. Figure 6 details the same volume of carbonated soft drinks consumed in Ireland from 2011 per capita. Compared with Figure 5 the ongoing decline from 2009 onwards is marginally more pronounced.

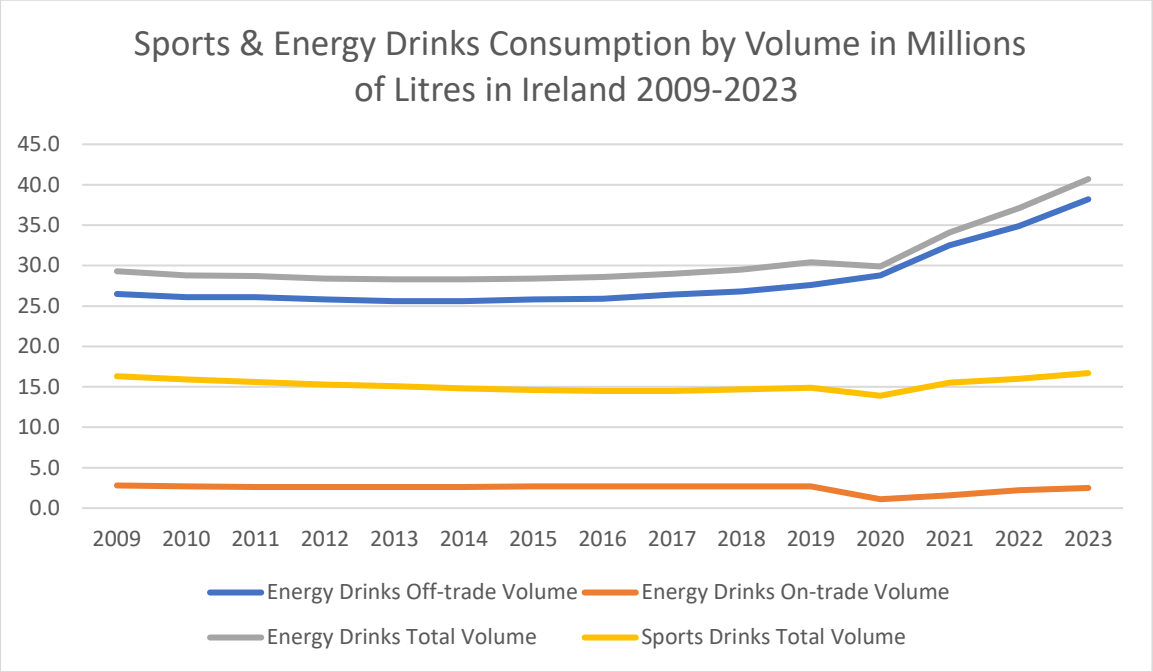
Figure 6: Carbonates Volume in Litres 2009-2023 Per Capita



The data associated with this table may be seen in Appendix 3.

Figure 7 details the volume of Sports & Energy Drinks consumed in Ireland from 2009 onwards. A slight dip between 2019 and 2020 is evident, with a notable rise evident from 2020 onwards in Energy Drink consumption. These Energy & Sports Drinks include full-sugar and no-sugar beverages. The rise in the consumption of these drinks may explain the slight increase in SSDT revenue in 2021 and 2022.

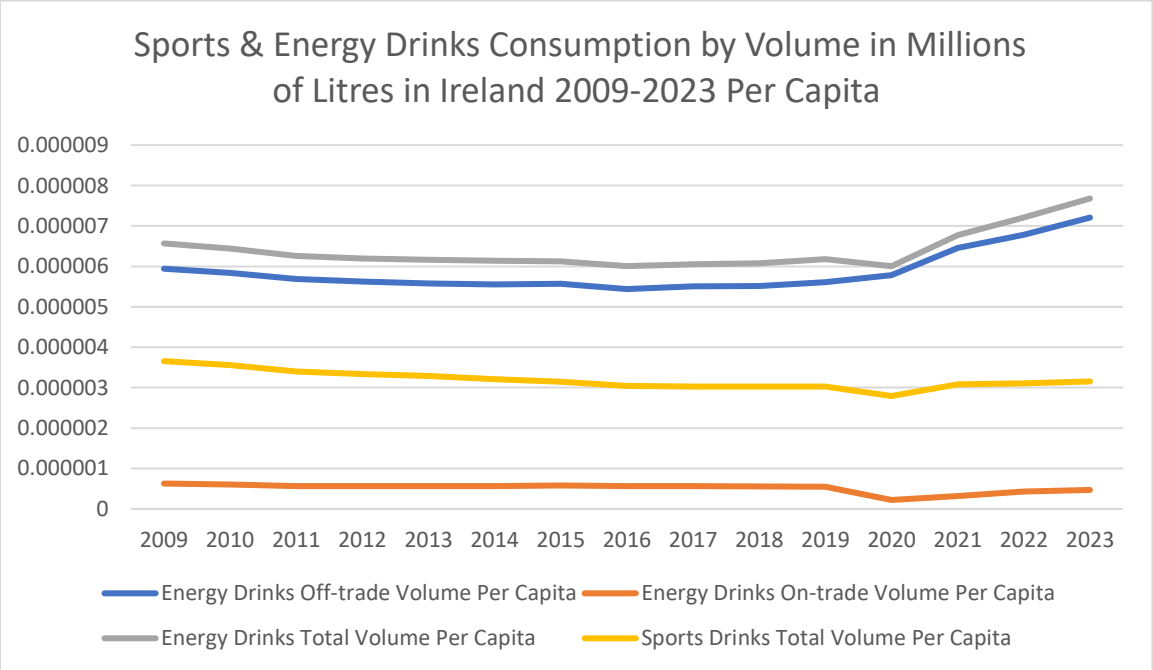
Figure 7: Sports & Energy Drinks Volume in Millions of Litres 2009-2023



Source: Euromonitor International Ltd

Figure 8 shows the same data, this time calculated on a per capita basis.

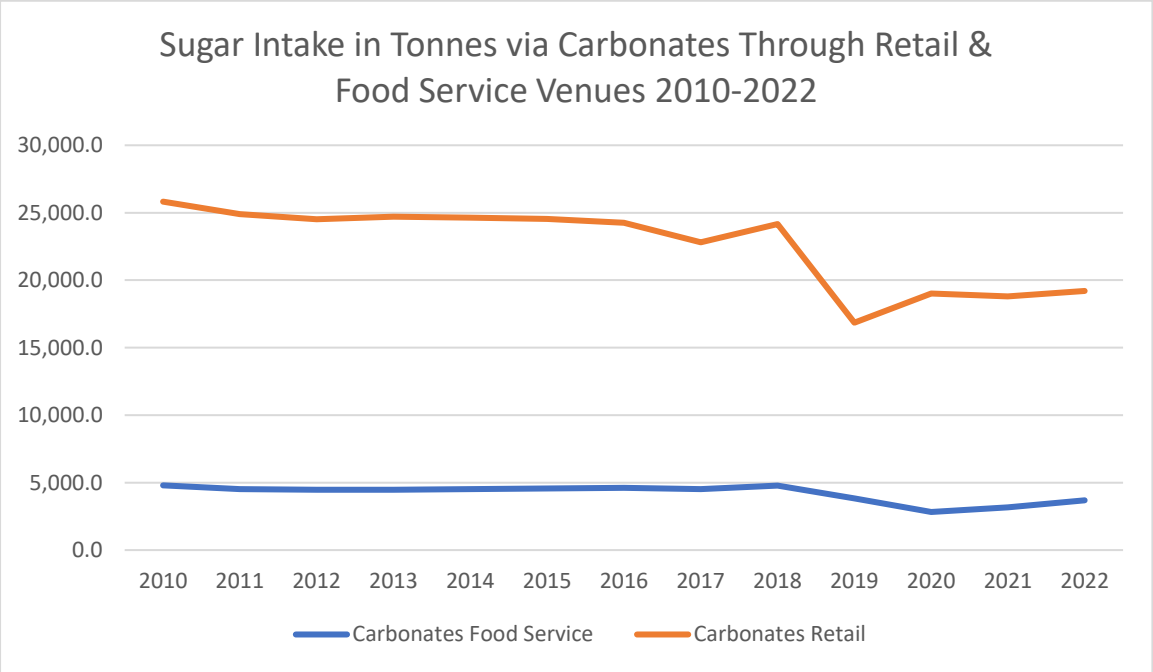
Figure 8: Sports & Energy Drinks Volume in Millions of Litres 2009-2023 Per Capita



The data associated with this table may be seen in Appendix 3.

As can be seen in Figure 9 there is a general gradual decline in the figures for the intake of sugar via carbonates through retail and food service venues from 2010 to 2018. It must be acknowledged that there is a degree of volatility in this pattern.

Figure 9: Sugar Intake in Tonnes via Carbonates 2010-2022

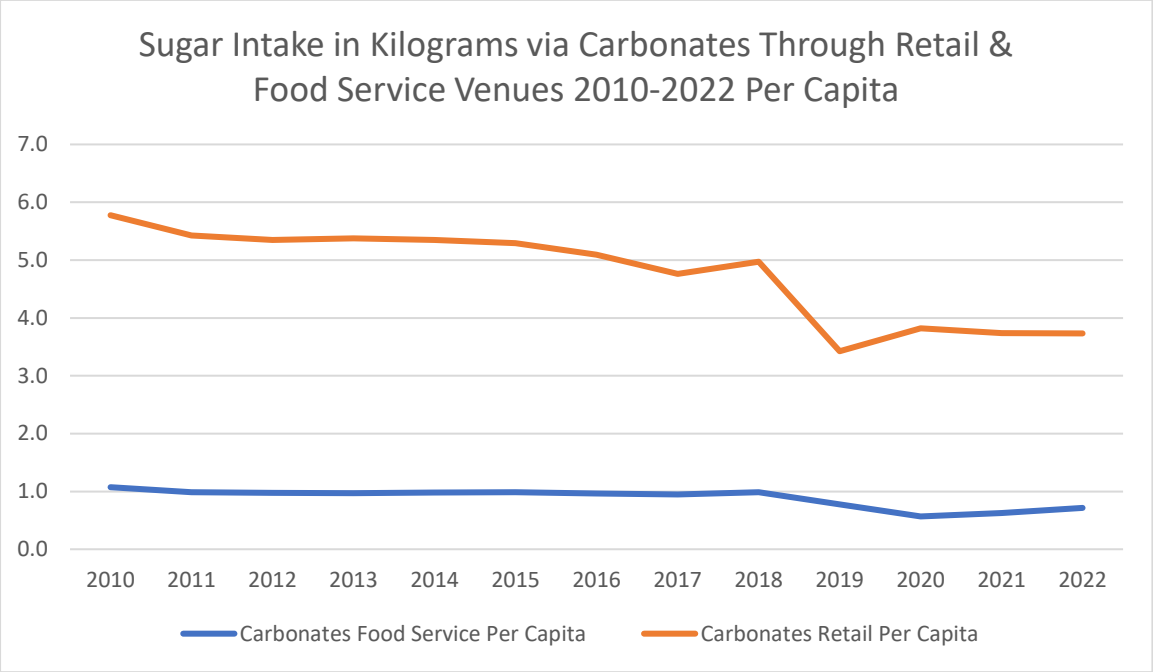


Source: Euromonitor International Ltd

However, what can be seen in the data for the year 2019 is stark and out of sync with the generally mild pattern observed. In the first full year since the introduction of the SSDT, there was a 30.2% reduction in sugar intake via Carbonates through retailers. In the same year sugar intake via food service venues also declined 19.8% (see Table 13). SSDT revenue data are of little help in assessing this notable decline. No SSDT data existed prior to its introduction in May 2018, and coverage of drinks included under the SSDT expanded at the beginning of 2019.

Figure 10 details the data from Figure 9 calculated on a per capita basis.

Figure 10: Sugar Intake in Kilograms via Carbonates 2010-2022 Per Capita



Advanced statistical analysis of this data was not undertaken, using for example time series analysis, because of both the small number of data points and the complicating impact of the COVID-19 pandemic.

Figures 9 and 10 clearly appear to indicate a notable decline in sugar intake via carbonates. The Euromonitor Report itself does not comment on this drop. This drop is not reflected in SSDT revenue data. The lack of available comprehensive information on reformulation in Ireland over time, makes it difficult to be certain what factors are responsible for this decline.

The SSDT was introduced on 1st May 2018 and extended on 1st January 2019. There was significant media coverage associated with its introduction which may have helped publicise the SSDT, influencing consumers (Edwards, 2018).

Subsequent increases, particularly in the Retail Sector, though are evident in the years following the introduction of the SSDT. The general decline in sugar intake consumption up to 2018 is slightly clearer. Notably, the dramatic decline in 2019 is still evident.

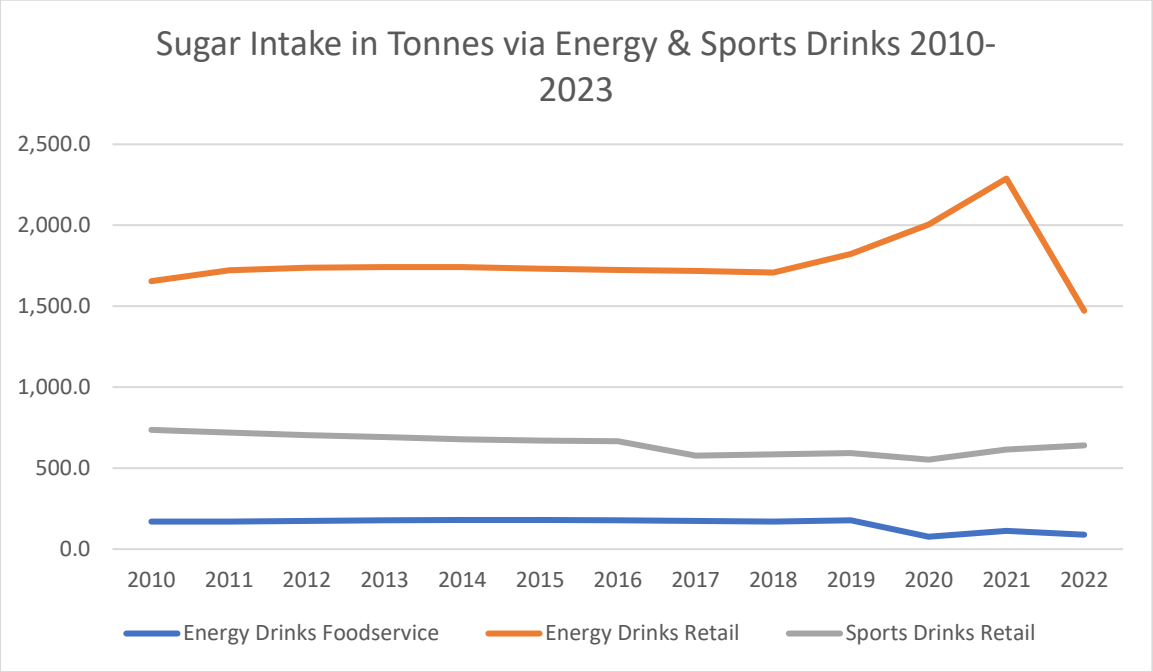
Table 10: Sugar Intake in Tonnes via Carbonates in Ireland 2010-2022

	Carbonates Food Service	Carbonates Retail
2010	4,797.7	25,822.8
2011	4,530.5	24,902.9
2012	4,471.2	24,529.1
2013	4,460.3	24,704.6
2014	4,513.6	24,647.9
2015	4,562.0	24,530.1
2016	4,602.2	24,256.6
2017	4,529.2	22,807.1
2018	4,777.9	24,150.8
2019	3,832.1	16,853.5
2020	2,824.4	19,023.7
2021	3,154.9	18,803.5
2022	3,690.7	19,206.4

Source: Euromonitor International Ltd

Figure 11 details total sugar intake in tonnes via Energy & Sports Drinks in Ireland. Minimal impact of the SSDT is evident. Far more significant would appear to be the impact of the COVID-19 pandemic on driving retail sales. It is possible that as people increasingly worked and exercised from home they may have bought a soft drink while out exercising. Although many hospitality settings closed during the pandemic, many elements of the food retail sector remained open.

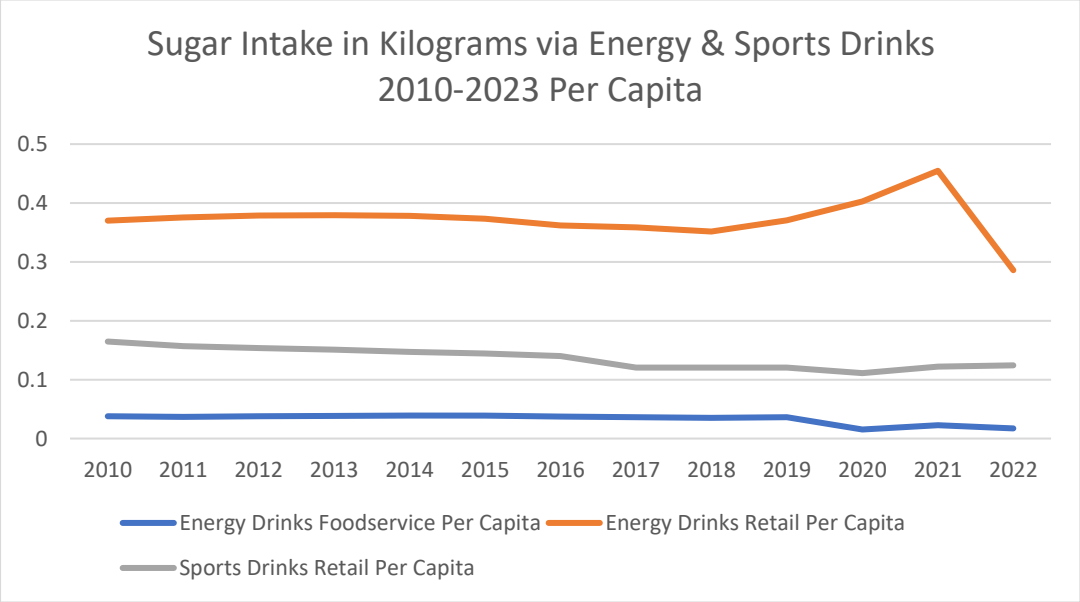
Figure 11: Sugar Intake in Tonnes via Energy & Sports Drinks 2010-2023



Source: Euromonitor International Ltd

Figure 12 is based on the same information as Figure 11, this time calculated on a per capita basis. The general pattern of the two Figures is very similar.

Figure 12: Sugar Intake in Tonnes via Energy & Sports Drinks 2010-2023 Per Capita



It should be noted that Euromonitor International Ltd not only provided observed data, but projections over the next number of years as well for the information detailed above. As projections, they have not been covered in-depth in this report. However, as they portray increases in the future they are included in Appendix 3.

SUMMARY

In summary, the Euromonitor International Ltd data demonstrates a slow decline in Carbonated drink consumption per capita in Ireland from 2009 onwards (see Figure 6). Recent increases in Energy & Sports drink consumption have not significantly impacted this trend. What is most notable in the Euromonitor International data is a substantial fall in sugar intake through carbonated drinks in the Irish population via retail venues in the immediate aftermath of the introduction of the SSDT. A mild but discernible decline in sugar intake via Carbonates through retail sources is evident in the years leading up to the introduction of the SSDT in Ireland in 2018 (see Figure 10). However, this data shows a notable decline from approximately 24,151 tonnes of sugar being consumed via Carbonates from retail premises in 2018, to 16,854 in 2019 (see Table 19).

As Euromonitor International Ltd data examining Carbonates consumption in Ireland on a per capita basis shows no such notable decrease between 2018 and 2019 (see Figure 10), it seems probable that reformulation, rather than decreased consumption may be responsible for this decrease. The SSDT revenue data show continued and notable reductions in the SSDT revenue in the lower SSDT band (5g-,8g of sugar per 100ml) from 2019 to 2023. With four out of five of the top selling carbonated beverages now being below the SSDT threshold, this interpretation appears most likely.

REFORMULATION

Reformulation by manufacturers is an acknowledged outcome of the introduction of SSDTs (Wierzejska, 2022; Bercholz et al., 2022; Allais et al., 2023; WHO, 2023). It has been suggested that such reformulation is more likely to occur in jurisdictions that have a sugar-based tiered tax design (Wierzejska, 2022).

Some major manufacturers of soft drinks In Ireland have reformulated the sugar content of their products downward. For example, four out of the top five soft drink brands in Ireland now contain less than 5g of sugar per 100ml. However, such reformulations continue a prior mild trend in sugar reduction. Food Drink Ireland (2018) reports innovation and reformulation of both food and drink from 2005 to 2017.

Precise details on wider changes in formulae in the soft drink market before and after the introduction of the SSDT were not accessible. Ireland currently lacks a longitudinal (annual) National Branded Foods Database.

NEW PRODUCT DEVELOPMENT

One interesting suggestion to emerge in consultations with Irish researchers was an examination of the potentially changing profile of new products being developed and brought to market in the soft drinks field in Ireland.

However, further investigation indicated that the Mintel database does not have complete coverage. This critically weakens any such examination. In addition, the data is held in visual form (digital photos) and hence would also be extremely time-consuming to evaluate. The cost of accessing this database was prohibitive to this study, and the additional personnel required for analysis of this type of data pushed any such examination beyond the scope of this current project.

PRIMARY RESEARCH WITH BEVERAGE INDUSTRY REPRESENTATIVES IN IRELAND AND EUROPE

The introduction of the Sugar-Sweetened Drink Tax (SSDT) in Ireland marked a pivotal moment in the nation's efforts to combat rising obesity rates and promote healthier dietary choices for the Irish population. Implemented with the aim of reducing sugar consumption via soft drinks, the SSDT has been subject to scrutiny and evaluation by a variety of stakeholders, including representatives from the soft drinks industry. Through a series of group and individual interviews with industry representatives and corporate employees, this section provides insight into the impact of the SSDT, changing consumer behaviour, and broader public health outcomes from the perspective of professionals in the sector.

METHODOLOGY

This study employed a qualitative research methodology to explore the perceptions and experiences of beverage industry representatives regarding the implementation and outcomes of the Sugar-Sweetened Drinks Tax (SSDT) in Ireland. The research process was based on semi-structured interviews, which allowed for in-depth discussions on topics such as sugar reformulation, the perceived efficacy of the SSDT, and its economic impact.

At the outset of this project, it was the research team's intention to contact industry leaders and engage in interviews and/or focus groups to gain information on their experiences of the implementation and outcomes of the SSDT thus far. Beginning in October 2023, twenty-one beverage producers and supermarket retailers in the Republic of Ireland were contacted via email

and post to ask them to participate in interviews regarding the introduction of the SSDT. This direct approach did not elicit any response.

Contact was also made via email with several individuals, public bodies and charitable organisations that had contributed to public consultation with the Department of Health around the introduction of an SSDT in Ireland. The research team wanted to provide an opportunity for them to comment on the impact of the tax from their perspectives. Several did not respond, or responded stating that they had no further comment to add at this time. Two expressed interest in engaging in a further discussion but were unavailable to schedule an interview prior to the deadline for this report.

Interviews with industry representatives, facilitated by contact with the Irish Beverage Council (IBC), were arranged starting in December 2023 and eventually took place in February 2024. The IBC represents 67% of the beverage producers in Ireland, including brand owners, producers, distributors, and marketers of still and carbonated soft drinks, sports and energy drinks, juices and packed waters. Through the IBC, contact was made with members who are beverage producers to arrange interviews.

Additional interviews were conducted with industry professionals from SoftDrinks Europe, which represents the sector within the European Union.

All interviews were recorded and transcribed using Microsoft Teams with the consent of participants, and the resulting transcripts were anonymised to remove any identifiable details.

Prior to meeting online, all participants were sent interview question prompts by the research team to consider. The approach and tone used in this process was that interviews would be a friendly and neutral conversation, with the researcher's desire to present expert insights from their experience of

working within the sector and their collective knowledge of the SSDT in Ireland as the key intention. The question prompts are listed in Table 11 below.

Table 11: List of Interview Questions for SSDT Research

1). From your perspective, what factors drove or are driving sugar reformulation in beverages in Ireland? 2). What are your perceptions of the efficacy of SSDT? Has it done what it set out to do? 3). There is some evidence (Houghton et al., 2023) of the tax not being passed through to the consumer in Ireland. In these situations, who is absorbing the tax cost and why? 4). Going forward, what do you think should happen with the SSDT in Ireland? Should there be expansion of the tax, or an increase? Do you think the public is aware that there is an SSDT? Should more be done to signal the price differences according to sugar content to the consumer?

The interviews were transcribed by MS Teams and a modified version of thematic analysis (Braun and Clarke, 2006) was used to produce themes. The themes and evidentiary quotes extracted from these interviews offer some insight into the multifaceted nature of the SSDT's influence on the soft drinks industry and its reception among Irish consumers. Further details on the research process including excerpts from interviews may be seen in Appendix 4.

In addition, the IBC provided a position paper to help clarify their members' perspectives on the SSDT. At the time of writing, we were asked to use the position paper as background research and to not share it in its entirety within

our report. One important information point from the February 2024 position paper shared with our research team appears below in Table 12.

Table 12: IBC Industry Reports of Changes in Soft Drink Production

SSDT Band 1 (5-8g sugar per 100ml)

▪ The volume of soft drinks produced liable to SSDT Band 1 has decreased significantly, declining by approximately 90% between 2017 and 2023.

▪ The proportion of soft drink product portfolio subject to SSDT Band 1 has fallen across most respondents during this period. Of those who increased the share of their portfolio in Band 1, this was due to a reduction of sugar content in products, resulting in reclassification of such products from Band 2 to Band 1.

SSDT Band 2 (8g+ sugar per 100ml)

▪ The volume of soft drinks produced liable to SSDT Band 2 has decreased by over 25% between 2017 and 2023.

▪ The proportion of soft drink product portfolio subject to SSDT Band 2 has also fallen sharply across respondents.

Outside scope of SSDT (under 5g sugar per 100ml)

▪ The production of soft drinks which fall outside the scope of the SSDT saw a massive increase, demonstrating the priority placed by our sector on the production of low and no sugar alternatives.

▪ The volume of soft drinks produced under 5g sugar per 100ml has increased by 59% between 2017 and 2023

▪ The proportion of soft drink product portfolio below 5g sugar per 100ml has increased significantly across all respondents.

The above excerpt from the position paper reflects the stated significant increase in development and production of beverages in the lowest SSDT band from 2017 through 2023. It also supports the decrease in the production

and sales of drinks in the two highest tax bands, indicating a clear overall increase in lower-sugar or zero-sugar beverage production in the Irish market.

Overall interview themes

An important recurring theme from the interviews centres on **Consumer Demand for Healthier Products**. Participants highlighted a growing consumer trend towards reduced sugar, lower calorie or zero calorie beverage options in Ireland, and the industry's response to meet this demand through reformulation and product diversification. All interview participants asserted that this demand for less sugar and lower calorie options among the public came well before the introduction of the SSDT in Ireland, prompting moves towards lower sugar reformulation before the initiation of the tax in 2018. Reformulation efforts within the beverage industry emerge as a key focus from the participants' viewpoint, underscoring their claim of an ongoing commitment to offering lower sugar alternatives and reshaping marketing strategies to promote healthier choices.

However, questions remain about the efficacy of these efforts in driving meaningful change in consumer behaviour and dietary habits. The true effects of the SSDT in Ireland in shaping consumer behaviour are also queried by interviewees. They consistently framed the SSDT as a tool that facilitated reformulation to lower sugar products but not one that instigated or drove the move to lower sugar alternatives.

Another critical theme explores the **Impact of Policy and Regulation**. Industry representatives reflected on the effectiveness of the SSDT in achieving its intended objectives. While acknowledging the role of taxation in incentivizing reformulation efforts, concerns were raised among interviewees regarding its real impact on consumer behaviour. They queried the general awareness of

the Irish public of the existence of the tax, and the true extent of expected public health outcomes including a reduction in obesity, dental problems and weight-related health conditions in the Irish population because of the tax.

Participants felt there was a need for a more **Comprehensive Approach to Public Health** in Ireland, with stakeholders advocating for a broader set of interventions beyond taxation measures limited to the beverages sector. Collaborative efforts involving public education, awareness campaigns, funding for more healthy lifestyle programmes and facilities and support for reformulation across the food and beverage sector are seen as essential components in addressing the complex challenges of obesity and diet-related diseases. Predictably, interviewees felt that too much attention was paid to the soft drinks sector as a prominent cause of obesity and poor diet in Ireland.

Themes from Industry Representative interviews

The themes below were produced from two interviews with industry lobby representatives in Irish and European roles. Exemplar quotes for each theme are listed in Appendix 4.

1. Consumer Demand for Healthier Products

The participants asserted the idea that the trend towards reformulation and zero-calorie or zero-sugar beverage products began at least several years prior to the introduction of the SSDT, and were consumer-led. They also indicated that the focus of contemporary marketing campaigns within the industry is on low and no sugar beverage options.

2. Impact of Policy and Regulation

Participants spoke about the ongoing challenges of increased regulation and government policies for the beverage industry, which are sometimes represented as causal factors in product creation when, from their perspective, consumer demand is the primary driver in terms of lower sugar, healthier beverage alternatives.

3. Need for Comprehensive Approach to Public Health:

Participants consistently spoke about the need to take a wider range of actions in addressing the health concerns of the Irish public.

Themes from interviews with Irish Beverage Producers

The themes presented below come from three group interviews conducted with participants who are employed directly by soft drink production companies in Ireland. Each interview was conducted with at least two employees with roles in corporate affairs, sustainability, marketing, etc. from the particular company. Interviews for each company were held separately. Exemplar quotes for each theme are listed in the appendices.

1. Impact of Sugar Tax and Industry Response:

The impact of the sugar tax on industry members' existing efforts to reformulate to lower sugar options and its broader implications for consumer behaviour and industry practices was a major theme of these discussions. The data from the interviews suggest that industry professionals feel the SSDT has had limited success in achieving its health goals.

2. Consumer Perception, Preferences, and Education:

This theme delves into consumer beliefs, preferences, and the need for education regarding the use of sugar, artificial sweeteners, and health considerations for those who drink these beverages. Consumers often associate "low sugar" with artificially sweetened products, highlighting the need for more education around these products. Consumer preferences, beliefs, and behaviours regarding sugar, artificial sweeteners, and health considerations are significant factors influencing beverage choices as opposed to the introduction of the SSDT in Ireland.

3. Retail Pricing, Transparency, and the Negatives of Regulatory Intervention:

This theme addresses concerns about retailer pricing, transparency in passing on the sugar tax to consumers, and the need for regulatory intervention to ensure awareness and fairness. The discussion frequently centred on the perceived unfairness of the tax towards the soft drinks industry, while so many other food items are high in sugar and have not yet been targeted for taxation.

Some discussion took place about whether additional measures, such as clearer labelling or public educational campaigns, are needed to inform consumers about the sugar tax and its implications. This theme reflects the complex interplay between industry practices, consumer behaviour, regulatory measures, and public health concerns surrounding sugar consumption and taxation.

The participants were also very clear that they are passing the tax along to retail corporate customers, whose responsibility it then is to create this awareness of price differences depending on sugar content in products to the general consumer public.

All participants emphasised the importance of collaboration among various stakeholders to address health challenges comprehensively, beyond just taxation measures which may not shape consumer behaviour to the extent to which they were intended.

Conclusion

The qualitative interviews conducted with representatives from the soft drinks industry and producers in Ireland offer some insights into the multifaceted impact of the Sugar-Sweetened Drink Tax (SSDT) since its implementation in 2018. Through these interviews, several key themes were developed, shedding light on various aspects of the SSDT's influence on industry practices, consumer behaviour, and the potential failure to meet broader public health outcomes through the tax.

One of the prominent themes that emerged from the interviews is the industry's response to consumer demand for healthier products. While Euromonitor data demonstrates that sales of energy and sports drinks with high sugar rates remain high, the representatives interviewed here reported a trend towards reduced sugar options among consumers and highlighted their efforts to meet this demand through reformulation and product diversification. These efforts, however, were noted to have preceded the introduction of the SSDT by at least several years and up to a decade or more prior. They argue that this indicates an ongoing commitment to promoting healthier choices for consumers irrespective of regulatory measures.

Additionally, discussions surrounding the impact of policy and regulation underscored the effectiveness of the SSDT in incentivizing reformulation efforts

within the beverage industry. While acknowledging the role of taxation in driving these efforts, concerns were raised regarding perceptions of its true impact on consumer behaviour and public health outcomes. The need for greater awareness among the Irish public about the SSDT and its implications was also emphasized, highlighting the importance of education and transparency in regulatory measures. Industry stakeholders advocated for collaborative efforts involving education, awareness campaigns, and support for reformulation to address the complex challenges of obesity and diet-related diseases comprehensively.

Consumer perceptions, preferences, and education emerged as crucial factors influencing beverage choices from the perspective of industry employees, underlining the need for informed decision-making and transparent labelling. It should be noted that consumer behaviour is marked by variations and differences; some consumers never drink carbonated beverages, some only choose diet or sugar-free options, and some only drink those with full sugar. Concerns were raised by participants about the clarity of communication surrounding the SSDT and its implications for consumers. Additional concerns were linked to an increase in the tax rate without expansion to other food and beverage sectors, the lack of proper data collection to measure efficacy, and ringfencing of the tax for education and health programmes for the public.

THE SSDT PASS-THROUGH RATE IN IRELAND

The importance of the pass-through rate for effective SSDTs was discussed earlier, as were the mechanisms through which SSDTs operate. As well as a general increase in price, making sugar-sweetened beverages less accessible and appealing, it is crucial that there is price differentiation between higher sugar drinks and low and no-sugar varieties. If prices are equal or very similar then the impact of both the rational choice mechanism and the signalling mechanism reduced.

A review of the literature on the SSDT pass-through rate identified one recent Irish study that had examined prices in retail (off-site) premises (Houghton et al., 2023). This examination of 14 chain supermarkets noted that, in instances where the same leading brand and container size was available in both sugar free and full sugar versions, the retail price was the same in approximately 60% of cases. Even when a price differential was applied it often fell short of the SSDT addition. It is unclear if manufacturers or retailers are absorbing the SSDT, or have simply raised the prices of drinks not subject to the SSDT to achieve this equal pricing.

PRIMARY DATA COLLECTION

As the pass-through rate is a crucial element in the effective functioning of an SSDT the decision was taken by the researchers to conduct a further study. The Houghton et al. (2023) study discussed above focussed solely on the retail sector, effectively therefore focussing only on sales for off-site consumption. Therefore the decision was taken to explore the pass-through rate in the hospitality sector (i.e. venues of on-site consumption).

Of the five leading soft drink brands sold in Ireland by late 2023, only one remained above the SSDT limit (Ahern, 2023). This study examined the pricing of the remaining high-sugar brand in a convenience sample of 100 hospitality venues in two Irish provincial cities. 99 of the 100 venues approached agreed to take part in this research. 90.9% (90) of participating venues sold both full sugar and diet equivalents. In 85.6% (77) of cases, the sugar and sugar-free versions were for sale at the same price. No venues charged more for the diet version. Of the 13 premises which did charge more for the full sugar version, the rate charged was less than the tax rate in one venue, with the other 12 actually charging a higher differential rate for the sugar-sweetened version, compared to the sugar-free version, than that imposed by the SSDT. Among the 13 venues which did charge a higher price the average higher price was 21.1 cents per 330ml (SD= .15), ranging from 7 cents to 53 cents. This study identified a mean pass-through rate of the SSDT of 38.3%. It is important to remember that in evaluating the impact of the SSDT it must be acknowledged that sugar is substantially more expensive than sugar alternatives. Therefore, even the minimal differences observed in this analysis may not be wholly attributable to the SSDT.

This research indicates that 17 out of 20 hospitality venues in Ireland may be charging the same amount for drinks not subject to the SSDT as those subject to the SSDT. This significantly undermines both the differential pricing disincentive and the signalling mechanisms through which the SSDT can potentially influence healthier choices (Houghton et al., 2024).

DISCUSSION

Market data secured via Euromonitor International Ltd. clearly indicates a notable reduction in sugar consumption via carbonated soft drinks in the immediate aftermath of the introduction of the SSDT. The 2019 reductions of over 30% in sugar intake via Carbonates through Retailers, and of almost 20% via Carbonates through Food Service Venues were substantial. Concerns exist however about the longevity of this reduction. In subsequent years the impact of this fall is diminished by subsequent increases.

Irish Beverage Industry representatives suggest that reformulation to lower and sugar-free options has been an ongoing process for more than the last decade in response to changing consumer demands. The Irish Beverage Industry is adamant that SSDT facilitated reformulation but did not cause it. However, the downward trend in sugar consumption is minimal pre-2018, whereas afterwards there is a notable decline. Given the pre-2018 decline in sugar consumed was negligible, and rapid afterwards, this suggests either that reformulation happened more rapidly post-implementation of the SSDT and/or consumption habits suddenly shifted dramatically. The Revenue Commissioner's SSDT data also details an ongoing decline in tax revenue in the lower sugar tax bracket (5g - <8g of sugar per 100ml). This helps to corroborate both of these changes.

Taking both the quantitative and the qualitative evidence together, these findings suggest that the SSDT played a role in incentivising reformulation and/or a change in consumption habits.

One particular deficit in information on reformulation over the time period under examination relates to Sports/ Energy drinks. These are a growing sector of the Irish soft drink market and although one cross-sectional review was undertaken (Keaver et al., 2017), subsequent information is currently lacking. According to Euromonitor, overall carbonate consumption per capita has decreased since 2012. There has been a significant nonlinear increase in energy drink consumption since 2016 with a smaller increase in sports drinks. The Sports/ Energy drink market appears volatile in recent years and may have been impacted by an increase in exercise levels in Ireland during the first Covid-19 shutdown (Barrett et al., 2022).

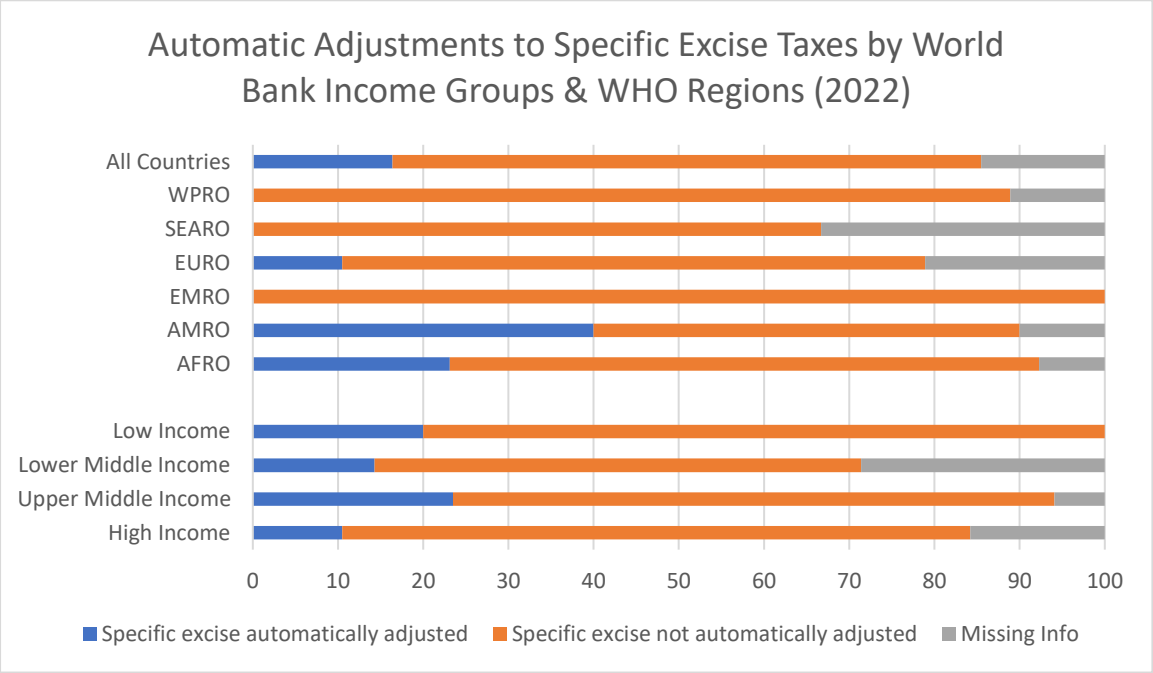
Analysis of the SSDT pass-through rates in the retail and hospitality sectors in Ireland are problematic. Approximately 60% of same-size and brand drinks available in both diet and full-sugar versions in retail venues were for sale at the same price (Houghton et al., 2023). In the hospitality sector, the situation is of more concern, with approximately 85% of venues retailing full sugar and diet equivalents of a leading brand at the same price (Houghton et al., 2024). This may undermine the effectiveness of the SSDT in promoting product choice switching through either the differential cost or signalling mechanisms. It should be noted that there is some evidence that suggests that adding a phrase such as 'includes sugary drink tax' onto price tags can act as a disincentive to purchasing (Donnelly et al., 2021).

The SSDT revenue collection data showed modest decline over time since the implementation of the tax. There has been a long-term decline in soft drink consumption across Europe, including Ireland, over the last 20 years (Chatelan et al., 2022). As Cawley & Frisvold (2023) note such time trends are problematic in analysis in the absence of a credible geographic control group. The impact of both the rapid population increase over this short

timeframe and the COVID-19 pandemic also needs to be considered when analysing data.

The SSDT introduced in Ireland was relatively modest at 8 cents per standard 330ml can at the higher SSDT tier, and 5 cents on the lower tier. It is notable that Ireland, like many other countries, has not introduced a mechanism to automatically adjust these rates in line with inflation (see Figure 9).

Figure 13: WHO Data on Automatic Adjustments to Specific Excise Taxes Such as the SSDT Globally



(Source: WHO, 2023: 13)

This absence is important as inflation has continued to erode the real value of this fixed SSDT. Table 13 details CSO data showing Consumer Price Index (CPI) changes over from 2018 onwards. It is noteworthy that the CPI inflation rate for food & non-alcoholic beverages was almost 12% in 2022 alone.

Table 13: Consumer Price Index Percentage Change Over Time (Food & Non-Alcoholic Beverages)

2018 - Part	Dec. 2019	Dec. 2020	Dec. 2021	Dec. 2022	Dec. 2023	2024- Part
May +0.2 June -0.5% July +0.4% Aug. -0.1% Sept. -0.3% Oct. +0.4% Nov. -0.2% Dec. -0.1%	12 months -0.9%	12 months -1.5%	12 months +1.6%	12 months +11.8%	12 months +5.6%	Jan. -0.2

(Source: CSO, 2024)

Such high rates of inflation would suggest the need to index Ireland's SSDT to the CPI and adjust accordingly on an annual basis.

The Healthy Ireland Survey asks respondents about their consumption of sugar-sweetened drinks, but this explicitly includes energy or sports drink. The Healthy Ireland Survey does not include a question about diet version. Approximately 50% of respondents in the 2015-2017 Healthy Ireland surveys drink sugary drinks and in 2018 and 2021 this drops to approximately 25%. While the Growing Up in Ireland survey includes questions about the child's consumption of diet versions and non-diet versions, the questions change for each wave so a robust aggregated analysis is not possible.

CONCLUSION

It is vital to acknowledge the complexity of the obesity issue and the diverse spectrum of actions that are urgently required to combat this growing threat. As Breslin et al., (2022) note, a whole systems approach to obesity prevention is required. Policy and population-based approaches are required to respond to our obesogenic environments (Zhang et al., 2014). Obesity remains a significant threat to a growing proportion of the Irish population via diet-related non-communicable diseases (NCDs), as well as via associated impacts on self-esteem and mental health. Sugar-sweetened drinks remain a threat to population health through diet-related noncommunicable diseases (NCDs), with little to recommend them given their 'empty calories' (Whiting et al., 2001; WHO, 2023).

The SSDT remains one tool, among many, to respond to this threat. As outlined by the WHO and others, SSDTs are a proven fiscal lever to increase the price of sugar sweetened drinks and reduce sugar consumption internationally (WHO, 2023; White et al., 2023; Colchero et al., 2016; Andreyeva et al., 2022). The unique impact of the SSDT is undoubtedly modest, as given the complexity of the issue (Foresight, 2007), no one policy option represents a 'silver bullet'.

This research essentially sought to answer two key questions. Did the SSDT lead to reduced consumption of sugar-sweetened drinks, and did industry engage in reformulation?

Data provided by Euromonitor International Ltd demonstrates a notable reduction in sugar being consumed via carbonated soft drinks in Ireland in the year 2019 compared to the general trend from earlier years. It is unclear how much of this change is as a result of reformulation or consumers opting for low-sugar or sugar-free options. Either way, the nature of this reduction is highly suggestive that the SSDT has been successful in reducing sugar intake via soft drinks.

It is also probable that the SSDT has also been a success in terms of the reformulation. This is evident in the majority of the major soft drink brands. Although consumer preferences no doubt evolved over time to demand a healthier option, the SSDT can be credited with hastening the delivery of this reformulation. Four out of five of Ireland's leading carbonated non 'low calorie' soft drink products have been reformulated to recipes below the SSDT threshold.

There is minimal price differentiation in the prices charged between full-sugar carbonated drinks and their diet alternatives in Ireland. This is evident in both

on-site (hospitality venues) and off-site (retail) venues. This means that both the rational choice and the signalling mechanisms through which an SSDT may operate on individual consumers are often no longer operational.

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APPENDIX

APPENDIX 1

GROWING UP IN IRELAND SURVEY

Relevant results from waves 1 to 6 of the GUI Study are detailed below.

Table 14: Soft Drink Consumption in Waves 1 & 2 of the Growing Up in Ireland Survey (2008 & 2012)

Wave 1 (2008)		**Wave 2 (2012)**	
We would like you to think back to what you ate yesterday. Did you eat the following?		**Do you usually have something to eat at home before going to school?**	
Fizzy drinks or diet drinks		Fizzy drinks / minerals / cordial / squash **(not diet)**	
No	59.5% (5071)	No	27.8% (2064)
One serving	31.2% (2654)	One serving	15.7% (1198)
More than one serving	9.3% (790)	More than one serving	55.8% (4151)
Refusal	0.03% (3)	Refusal	0.08% (6)
Don't know	0% (0)	Don't know	0.2% (18)
		Do you usually have something to eat at home before going to school?	
		Fizzy drinks / minerals / cordial / squash **(diet)**	
		No	29.3% (2179)
		One serving	14.8% (1099)
		More than one serving	55.7% (4142)
		Refusal	0.09% (7)
		Don't know	0.1% (10)
			N= 7,437

Table 15: Soft Drink Consumption in Waves 3 & 4 of the Growing Up in Ireland Survey (2016 & 2019)

Wave 3 (2016)	**Wave 4 (2019)**

In the last 24 hours have you had the following		**In the last 24 hours have you had the following**	
Fizzy drinks / minerals / cordial / squash **(not diet)**		Fizzy drinks / minerals / cordial / squash **(not diet)**	
Once	21.9% (1363)	Once	22.4% (1160)
More than once	13.7% (853)	Twice	9.1% (471)
Not at all	64.3% (3994)	More than twice	6.2% (321)
Refusal	0% (0)	Not at all	62.4% (3237)
Don't know	0.08% (5)	Refusal	0% (0)
		Not answered	0.02% (1)
In the last 24 hours have you had the following		**In the last 24 hours have you had the following**	
Fizzy drinks / minerals / cordial / squash **(diet)**		Fizzy drinks / minerals / cordial / squash **(diet)**	
Once	7.6% (473)	Once	11.6% (600)
More than once	5.2% (320)	Twice	3.9% (201)
Not at all	87.2% (5417)	More than twice	2.7% (142)
Refusal	0% (0)	Not at all	81.8% (4246)
Don't know	0.08% (5)	Refusal	0% (0)
		Not answered	0.02% (1)
	N= 6,215		N= 5,190

Table 16: Soft Drink Consumption in Wave 6 of the Growing Up in Ireland Survey (2021/22)

Wave 5 unavailable		**Wave 6 (2021/22)**	
		how many times a week <child> usually drinks any of the following	
		Fizzy drinks / minerals / cordial / squash **(Not Diet)**	
		Less than once a week	63.5% (4221)
		Once or twice a week	21.9% (1455)
		3 or 4 times a week	7.4% (493)
		5 or 6 times a week	2.3% (151)
		Every day - once	4.1% (273)
		Every day – more than once	0.9% (57)
		how many times a week <child> usually drinks any of the following	
		Fizzy drinks / minerals / cordial / squash **(Diet)**	

		Less than once a week	56.3% (3746)
		Once or twice a week	22.9% (1523)
		3 or 4 times a week	9.2% (612)
		5 or 6 times a week	2.6% (172)
		Every day - once	7.1% (473)
		Every day – more than once	1.9% (125)
			N= 6,651

APPENDIX 2

HEALTHY IRELAND SURVEYS

The sugar consumption question varied across survey years and in two years was removed completely (2019 and 2022). The survey was also not administered in 2020. As such the data is of only general use in this analysis. Details on the iterations of the questions asked may be seen below (see Table 17). This data is included to help detail sugar-sweetened consumption, rather than as a formal element in this examination.

Although the question has evolved somewhat over time, it is worth noting that consumption of never-having sugar-sweetened drinks has increased from <50% in the 2015 - 2017 period to >70% in 2018, and 2021.

Table 17: Consumption of Sugar-Sweetened Drinks Reported in the Healthy Ireland Survey 2015-2017

How often do you drink sugar-sweetened drinks?			
	2015	**2016**	**2017**
Once or more a day	13.5% (1020)	11.2% (843)	13.7% (1010)
4 to 6 times a week	4.8% (359)	4.4% (332)	2.1% (158)
1 to 3 times a week	16.4% (1239)	15.8% (1181)	15.8% (1167)
Less than once a week	18.6% (1406)	19.1% (1435)	21.3% (1575)
Never	46.5% (3508)	49.4% (3704)	47.1% (3476)
Don't Know	0.09% (7)	0.04% (3)	0.01% (1)
Refused	0% (0)	0% (0)	0% (0)
	N= 7,539	N= 7,498	N= 7,387
Consumption of Sugar-Sweetened Drinks Reported in the Healthy Ireland Survey 2018-2019			
Over the course of the past 7 days on how many days, if at all, did you drink each of the following drinks?			
Regular sugar-sweetened fizzy or soft drinks, squashes or cordials, energy or sports drinks.			
		2018	**2021**
I did not drink this during the past 7 days		72.1% (5556)	78.5% (6045)
On 1 to 3 out of the past 7 days		17.8% (1374)	12.4% (955)
On 4 to 6 out of the past 7 days		3.0% (232)	3.4% (265)

Everyday, once per day	5.2% (402)	4.5% (334)
Everyday, twice per day	1.2% (89)	0.9% (66)
Everyday, 3 or more times per day	0.6% (48)	0.4% (34)
Don't know	0% (0)	0.01% (1)
Refused	0% (0)	0.01% (1)
	N= 7,701	N= 7,701

Additional questions potentially related to the SSDT over time in the Healthy Ireland Survey are detailed below:

Table 18: Additional Sugar-Sweetened Drinks Questions in the Healthy Ireland Survey

Are you trying to lose weight/ maintain your weight by doing any of the following? – Eating/ drinking fewer sugar sweetened foods/drinks						
	2015	2016	2017	2019	2021	2022
Not Eating/drinking fewer sugar sweetened foods/ drinks	42.2% (3182)	42.0% (3147)	37.4% (2801)	28.7% (2127)	44.7% (3335)	48.0% (3579)
Easting/drinking fewer sugar sweetened foods/drinks	18.1% (1364)	20.9% (1567)	26.0% (1944)	30.9% (2292)	26.0% (1938)	28.7% (2140)
N	7,539	7,498	7,487	7,413	7,454	7,455

APPENDIX 3

EUROMONITOR INTERNATIONAL LTD DATA

Table 19: Observed & Projected Energy & Sports Group Based Sugar Intake in Ireland 2010-2027

Year	Energy Drinks Foodservice	Energy Drinks Retail	Sports Drinks Retail
2010	170.2	1,654.0	736.3
2011	169.8	1,722.1	718.8
2012	173.6	1,737.1	704.3
2013	177.2	1,741.5	692.3
2014	180.0	1,742.7	678.9
2015	179.4	1,731.4	669.5
2016	177.5	1,724.1	665.8
2017	174.3	1,718.2	577.6
2018	170.9	1,708.5	584.7
2019	178.7	1,823.6	592.5
2020	76.5	2,003.9	552.7
2021	113.6	2,288.5	615.7
2022	89.0	1,471.9	640.7
2023	*101.6*	*1,542.7*	*674.1*
2024	*108.0*	*1,600.1*	*696.4*
2025	*112.5*	*1,634.2*	*713.8*
2026	*116.6*	*1,661.7*	*728.9*
2027	*120.0*	*1,681.8*	*741.7*

Source: Euromonitor International Ltd; Projected Data in Red

Figure 14: Observed & Projected Energy & Sports Group Based Sugar Intake in Ireland 2010-2027

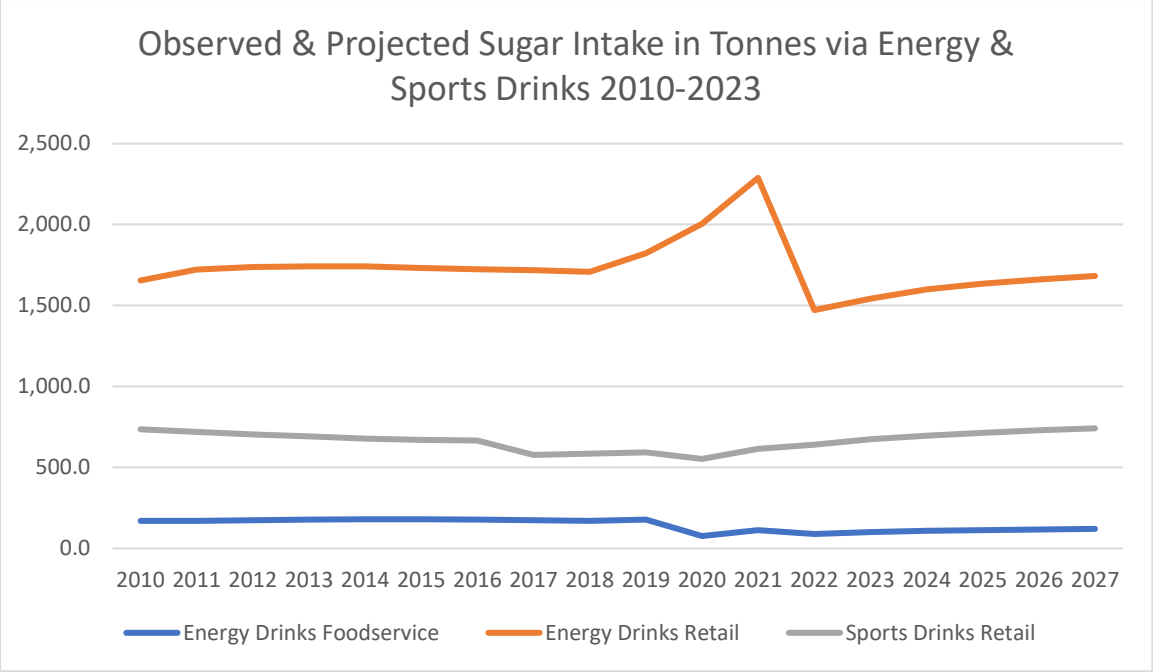

Table 20: Observed & Projected Sugar Intake in Tonnes via Carbonates 2010-2026 in Ireland

Year	Carbonates Food Service	Carbonates Retail
2010	4,797.7	25,822.8
2011	4,530.5	24,902.9
2012	4,471.2	24,529.1
2013	4,460.3	24,704.6
2014	4,513.6	24,647.9
2015	4,562.0	24,530.1
2016	4,602.2	24,256.6
2017	4,529.2	22,807.1
2018	4,777.9	24,150.8
2019	3,832.1	16,853.5
2020	2,824.4	19,023.7
2021	3,154.9	18,803.5
2022	3,690.7	19,206.4
2023	*3,982.7*	*18,971.8*

2024	*4,088.1*	*18,745.4*
2025	*4,171.7*	*18,515.3*
2026	*4,241.0*	*18,275.7*

Source: Euromonitor International Ltd; Projected Data in Red

Figure 15: Observed & Projected Sugar Intake in Ireland 2010-2027 via Carbonates

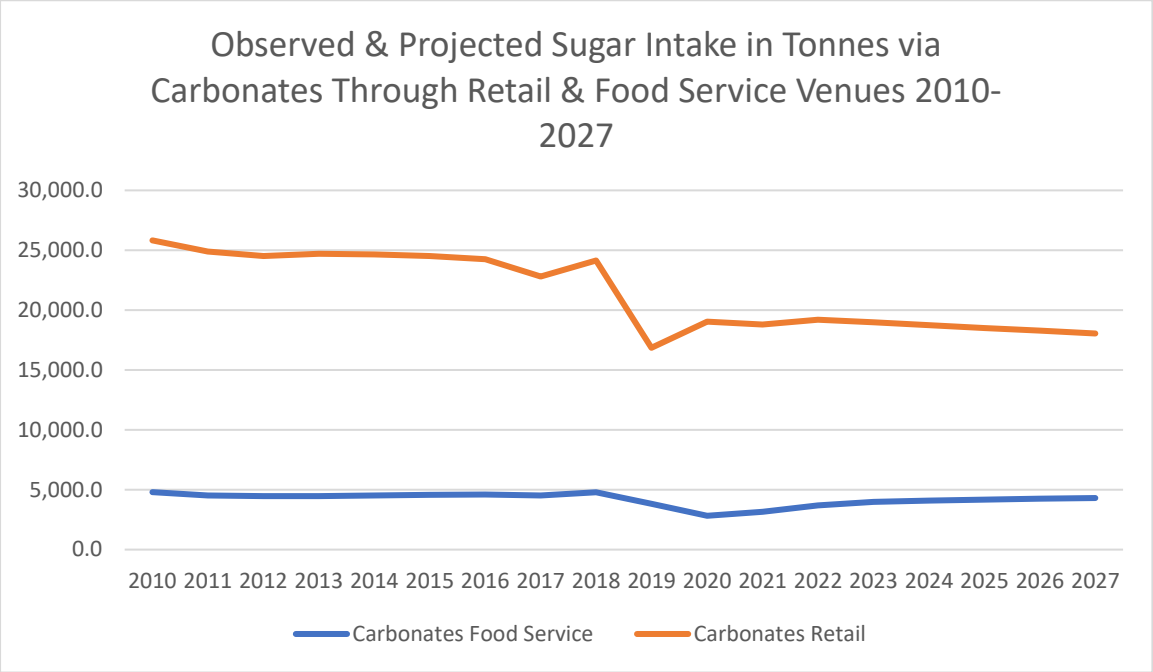

Table 21: Observed & Projected Carbonated Drinks Off-Trade & On-Trade Consumption in Ireland 2009-2028 by Volume (in Millions of Litres)

YEAR	Carbonates Off-trade Volume	Carbonates On-trade Volume	Carbonates Total Volume
2009	350.3	63.7	413.9
2010	338.5	59.9	398.4
2011	325.7	56.4	382.0
2012	321.2	55.6	376.8
2013	319.7	55.2	374.9
2014	318.8	55.9	374.7
2015	318.9	56.6	375.5
2016	319.0	57.5	376.5
2017	318.8	58.5	377.3

2018	320.0	59.6	379.6
2019	321.2	62.0	383.2
2020	350.2	43.8	394.0
2021	340.6	48.5	389.1
2022	336.1	56.7	392.9
2023	329.9	61.3	391.2
2024	*326.1*	*63.5*	*389.6*
2025	*321.5*	*64.9*	*386.4*
2026	*317.4*	*66.2*	*383.5*
2027	*313.8*	*67.3*	*381.1*
2028	*311.2*	*68.3*	*379.5*

Source: Euromonitor International Ltd; Projected Data in Red

Table 22: Observed & Projected Energy & Sports Drinks Consumption in Ireland 2009-2028 by Volume (in Millions of Litres)

Year	Energy Drinks Off-trade Volume	Energy Drinks On-trade Volume	Energy Drinks Total Volume	Sports Drinks Off-trade Volume	Sports Drinks Total Volume
2009	26.5	2.8	29.3	16.3	16.3
2010	26.1	2.7	28.8	15.9	15.9
2011	26.1	2.6	28.7	15.6	15.6
2012	25.8	2.6	28.4	15.3	15.3
2013	25.6	2.6	28.3	15.1	15.1
2014	25.6	2.6	28.3	14.8	14.8
2015	25.8	2.7	28.4	14.6	14.6
2016	25.9	2.7	28.6	14.5	14.5
2017	26.4	2.7	29.0	14.5	14.5
2018	26.8	2.7	29.5	14.7	14.7
2019	27.6	2.7	30.4	14.9	14.9
2020	28.8	1.1	29.9	13.9	13.9
2021	32.5	1.6	34.1	15.5	15.5
2022	34.9	2.2	37.1	16.0	16.0
2023	38.2	2.5	40.7	16.7	16.7
2024	*41.7*	*2.6*	*44.3*	*17.1*	*17.1*
2025	*44.6*	*2.7*	*47.4*	*17.5*	*17.5*
2026	*47.3*	*2.9*	*50.1*	*17.8*	*17.8*
2027	*49.6*	*3.0*	*52.6*	*18.2*	*18.2*
2028	*51.8*	*3.0*	*54.8*	*18.7*	*18.7*

Source: Euromonitor International Ltd; Projected Data in Red

APPENDIX 4

REPRESENTATIVE INTERVIEW TRANSCRIPT QUOTES FOR EACH THEME

Themes from Industry Representative interviews

The themes below were produced from two interviews with industry lobby representatives in Irish and European roles.

Consumer Demand for Healthier Products

Quotes that evidence this theme:

- "Overall consumer demand for more... healthier products, either healthy... or at least products with less sugar, less fats, less salt."
- "It's a general effort to offer more choices to consumers."
- "We already started our journey towards decreasing the amount of sugar in our product... long before there were some policies around it."
- "There is currently no or barely no marketing for the full sugar options in beverages."
- "We have had a sugar reduction strategy which far predates the sugar tax coming in. We started working on this in 2012."

Impact of Policy and Regulation

Quotes that evidence this theme:

a. "Once again it's an ask from policy makers... because there have been some actions taken... the taxation... came into place because we were simply following what other countries had done."

b. "As it was the case in the UK, it's helped to speed up... reformulation... but then if you are looking into the public health element... So far, I didn't see a single piece of evidence from any country that this [SSDT] has a positive effect."

c. "You can't make any link between actually a sugar tax or soft drinks that's coming in and a reduction in obesity of overweight. Actually, even a reduction in consumption. Not really. You can maybe see a shift between different type of products or maybe a little decrease at the start and then people start again using the product they like and they're used to. So yeah, the results are

indeed very, very weak. So I think we need to accept that policymakers are doing that mostly for financial purposes."

2. **Need for a Comprehensive Approach to Public Health:**
    a. "Really making... an entire package... things around portion control, education... support the reformulation in all directions, not only targeting soft drinks."
    b. "SSDT has had negligible effects on consumer decision-making, public health, or government revenue."
    c. "For health and issues, I would like the money that is raised from the SSDT to go towards addressing... education and sports programmes. These monies should be ringfenced to address the problems more widely."

Themes from interviews with Irish Beverage Producers

1. **Impact of Sugar Tax and Industry Response:**
    a. Quotes supporting this theme:
        i. "The sugar tax didn't really change anything about how we were working, which was towards lowering sugar, but it reinforced it."
        ii. "Really I think it comes back to, as simple as this sounds, what is the objective? What was the objective of the sugar tax? And is the public aware of this objective and where the tax is actually going?"
        iii. "I'm not sure it's (SSDT) had a huge impact, to be honest. We have been moving in this direction (re-formulation to lower sugar) for almost two decades now."
        iv. "I'm not sure it's had a huge impact. And it's fair to say that, you know, reducing sugar in our drinks has been a priority across Europe for (company) for over 2 decades..."
        v. "We already had a strategy in Ireland which was very much about providing choice and healthier choices to consumers. We have seen continuous growth in our products... We have been making headway against [sugar consumption] for years."
        vi. "What was the objective? What was the objective of the sugar tax? So if the objective is to lower obesity, how did

we get so far down the funnel of a tax on one specific category?"

vii. "The impact is probably limited and we can see that in terms of the reducing amount that they're taking in in terms of tax take from this particular measure as well over a period of time."

viii. "So I do think it's not scientific by any means, right? But I do think there's a varying level of understanding and knowledge right across Irish society of the existence of the tax and how the sugar tax works."

ix. "There is no transparency... usually, there is no communication about it... there are a lot of weak spots in the reporting and the assessment of the measure."

x. "When you have only some data, you can't make any link between actually a sugar tax or soft drinks... and a reduction in obesity or overweight."

xi. "We as an organization believe that the SSDT is working appropriately at its current level. if you look at the return and the revenues from this tax, they are diminishing over time... I think we're still on that journey. So I think let leave the tax be as it is and let it continue to evolve."

2. Consumer Perception, Preferences, and Education:

a. Quotes supporting this theme:

i. "Consumers don't really get it yet...they think you're talking artificially sweetened and that's it. But that is not all there is to sugar reduction in our products."

ii. "We're always bridging the gap between sugar and removing sugar."

iii. "There's much more consumer preference for healthier options in terms of nutrition and lower sugar these days."

iv. "If we took out five grams of sugar, we would replace it with the sweetness equivalent in an artificial sweetener, but also make other adjustments to the formula."

v. "People have a fear of what they don't know. There are many misconceptions in the public about reduced sugar options.

vi. "There needs to be some robust support for sweeteners, some strength of arguments to show these are the most thoroughly researched ingredients in food."

3. Retail Pricing, Transparency, and the Negatives of Regulatory Intervention:

a. Quotes supporting this theme:

i. "If it's not being passed on, who's benefiting from the fact that it's not being passed on? And those are the people you need to ask to highlight it."

ii. "My general view from speaking to people in the industry is that producers are passing on the sugar tax. It's up to retailers from there as to whether or not they pass it on."

iii. "We're being inundated with legislation at the moment and I have to say we are over-regulated as a very narrow sector. There are many other products that contain sugar that are not taxed or regulated in the way ours is."

iv. "It's clear to us that overweight and obesity are multidimensional societal issues and a cross-sectoral approach is needed, not just focusing on the consumption of beverages."

v. "Almost no signage, no logos, nothing kind of signposting the SSDT to the consumer. I think a lot of the signposting has been done through packaging, so a lot of people have dialled up 0 sugar, 0 calories. But there's probably a lot of messages on a shelf... how many messages can you get on a shelf?"

vi. “So punitive taxation has its own risks. Very much so... all the evidence shows that the thing to really focus on is education for the public. I really struggle with the idea of taxing food in isolation... It's about education around that equation of calories in, calories out."