



**FINAL REPORT – PROPOSED SUGAR
SWEETENED BEVERAGE TAX IN
NEWFOUNDLAND AND LABRADOR: A
REVIEW OF THE BUSINESS AND ECONOMIC
IMPLICATIONS
RISKS AND ISSUES EMERGING**

ABSTRACT

Newfoundland and Labrador have recently proposed a sugar tax - a 20-cent tax on every litre of sugar-sweetened beverage - slated to come into effect April 2022. It will be the highest tax rate of this kind in Canada thus far. The purpose of this report is to investigate and outline the economic, business, and social implications of the implementation of the sugar tax in Newfoundland and Labrador. It explores literature on implemented processed food and sugar sweetened beverage taxes in other countries and jurisdictions. It also outlines some of the implications to the business and economy in order to evaluate potential risks to Newfoundland and Labrador.

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OVERVIEW

Newfoundland and Labrador has recently proposed a sugar tax – a 20-cent tax on every litre of sugar-sweetened carbonated beverage - slated to come into effect April 2022. It will be the highest tax rate of this kind in Canada¹ and distributors/wholesalers will be tasked to collect it. The purpose of this report is to investigate and outline the economic, business, and social implications of the implementation of the sugar tax in the province. It explores research on implemented processed food and sugar sweetened beverage taxes in other countries and jurisdictions. The report also outlines some of the implications to the business and economy in order to evaluate potential impacts to Newfoundland and Labrador.

At face value, the proposed tax makes sense. Since 1975, the global prevalence of obesity has nearly tripled, driving the rates of type 2 diabetes, cardiovascular disease, and some forms of cancer. As a result, a growing number of governments are developing and implementing excise taxes, subsidies, or both, on sugar-filled drinks in order to combat this burden on healthcare systems. Not unlike past regulations regarding alcohol and tobacco taxation, these fiscal policies are intended to reduce consumption through taxing manufacturers, disrupting the sugary beverage market, and thereby influence consumer demand.

At a global level, the rates of sales and consumption of sugar-sweetened beverages, which are associated with poor health outcomes, have declined since 2000. However, they continue to remain high. In Newfoundland and Labrador, there has been a movement to the consumption of more diet drinks and the elimination of sugar-sweetened beverages in schools and some public facilities, also contributing to a reduction in availability. Overall, in Newfoundland and Labrador there has been a substantial decrease in the consumption of sugar-sweetened beverages over the last number of years. According to the Canadian Beverage Association and Nielsen data, this trend towards low and zero-calorie options is higher in Newfoundland and Labrador than elsewhere in Canada, and forecasted to increase in market share.

Addressing the consumption of sugar-sweetened beverages is not as simple as developing a tax. A multi-pronged approach using financial, information, defaults, and availability strategies is needed. As policy makers choose among approaches for reducing sugar-sweetened beverage consumption, policy equity, impact, and feasibility should be critical considerations. Working with existing manufacturers across the whole supply and value chains is also needed. Finally, understanding the business ecosystem around sugar-sweetened beverages and how they are produced, manufactured, and sold as well as the impact on all industry stakeholders is a critical component of ensuring any long-term positive health changes from the tax.

The implications to business and the economy with the implementation of the tax will be significant with risks emerging around human resources reduction (e.g. layoffs), business model feasibility (e.g. some businesses shutting down), logistics (e.g. shipments to smaller rural communities) as well as significant compliance and operational costs. There is also the potential for a ‘doom loop’ to the soft drink manufacturing and distributing industry – a feedback loop which means each action makes the situation worse for the industry - leading to even more risk for the overall Newfoundland and Labrador economy.

Overall, the evidence that sugar taxes alone improve long-term health is weak. However, there is strong evidence that the impact on business and industry, across the supply and value chain, will be significant in Newfoundland and

¹ Brethour, P. (2021) *Newfoundland's soda tax targets the sin of sugar*. The Globe and Mail.
<https://www.theglobeandmail.com/business/article-newfoundlands-soda-tax-targets-the-sin-of-sugar/>

Labrador. There are significant risks to the beverage business industry participants in the province if the proposed sugar sweetened beverage tax is implemented.

APPROACH TO THE STUDY

Conducted during October 2021 before the implementation of the tax, the study comprised a number of elements:

Systematic Literature Review - there was a review of the secondary and scholarly literature addressing the business and economic implications of implementing a sugar-sweetened beverage tax. The review primarily focused on peer-reviewed papers published in scholarly journals although industry reports were consulted when there were identified gaps in the literature. A systematic search of the academic literature revealed over a thousand articles exploring the subject of taxes and sugar-sweetened beverages. Limiting the focus on the last five years and the business as well as economic implications, 32 articles were identified by the author with a focus on ones that were systematic reviews.

Industry Analysis - there was an industry analysis conducted on the Canadian Beverage Industry and specifically Newfoundland and Labrador. Outside market analyst reports were reviewed including IbisWorld, Euromonitor, Statista, and Statistics Canada. There was reference to independent consulting studies (such as KPMG) when there were gaps in the available industry and market studies. There were interviews with industry stakeholders and visits to sites across the province that distributed and sold sugar-sweetened beverages. There were approximately 15 retail outlets visited on the Burin and Bonavista Peninsulas as well as different locations in the metro St. John's area. The size of the establishments varied from Costco to small independent retail stores.

Supply and Value Chain Analysis - utilizing a value chain analysis, the inputs and outputs of the beverage industry/sugar-sweetened soft drink sector in Newfoundland and Labrador were explored. The analysis utilized a supply and value chain model and secondary sources compiled from the literature review and industry analysis. Risks to business and industry were identified in the supply and value chain analysis.

The reason for taking the high-level approach of a supply and value chain analysis is that, as Allcott et al. (2019) point out, data availability is a challenge in empirical studies of the effects of sugar taxes.² Moreover, most of the data, especially financial, is not publicly available as the industry is relatively small (in a national Canadian sense) in the organizational form of independent franchises that bottle and distribute sugar-sweetened beverages. Those independent businesses then outsource some sales and distribution to even smaller firms. It truly is a business ecosystem that produces, sells, and delivers carbonated beverages in Newfoundland and Labrador.

The Canadian Beverage Association (CBA) provided the author of this report the funding and mandate to prepare an independent analysis of the business and economic implications of implementing the sugar-sweetened beverage tax. When asked for further clarification on consumption and other pertinent data, the CBA was able to provide independent reports. Moreover, in interviewing industry participants, confidential commercially sensitive data was shared to help inform the findings. However, it is important to note that the design and method of the research, as well as the content of the report, were determined solely by the author. The findings in this report are also entirely those of the author. Any errors or omissions in fact or interpretation remain the sole responsibility of the author.

² Allcott, H., Lockwood, B. B., & Taubinsky, D. (2019). Should we tax sugar-sweetened beverages? An overview of theory and evidence. *Journal of Economic Perspectives*, 33(3), 202-27.

DEFINITIONS

The following are definitions of the products considered and used for the taxes that are to be discussed in this report:

HIGHLY PROCESSED FOODS/JUNK FOODS/ENERGY DENSE FOODS: non-essential foods that are foods high in sodium, added sugars, or solid fats. These include all salty and other snacks, confectionery products, chocolate, and products derived from cacao, puddings, candy, peanut butter and hazelnut butter, ice cream.³

SUGAR-SWEETENED BEVERAGE (SSB): include ‘added sugars’ and typically includes non-diet carbonated soft drinks, ready-to-drink sweetened teas and coffees, energy drinks, sports drinks, flavoured bottled water, and ‘fruit drinks’ with less than 100% fruit juice. The proposed tax, however, focuses solely on non-diet carbonated soft drinks. This means that some of the economic and business implications, when examining the extant literature as well as the jurisdictional scan, may not be comparable as tax programs in other programs may be more (or less) comprehensive (i.e. include more types of sugar-sweetened beverages).

SUGARY DRINKS: include ‘free-sugars’ which include monosaccharides and disaccharides added to foods and beverages, plus sugars naturally present in honey, syrups, fruit juices, and fruit juice concentrate. Sugary drinks include SSBs but also beverages containing 100% juice on the basis that free-sugars contribute to the overall energy density of beverages and are metabolized the same way as ‘added-sugars’.

EXCISE TAX: taxes that are required on specific goods or services like fuel, tobacco, and alcohol. They are primarily paid by businesses.⁴

KEY FINDINGS – LITERATURE AND JURISDICTION REVIEW

Since 1975, the global prevalence of obesity has nearly tripled, driving the rates of type 2 diabetes, cardiovascular disease, and some forms of cancer. As a result, a growing number of governments are developing and implementing excise taxes, subsidies, or both, on sugar-filled drinks in order to combat this burden on healthcare systems. Not unlike past regulations regarding alcohol and tobacco taxation, these fiscal policies are intended to reduce consumption through taxing manufacturers, disrupting the sugary beverage market, and thereby influence consumer demand.⁵ The proposed tax in Newfoundland and Labrador is different in that it does not directly tax manufacturers; it taxes distributors and wholesalers. Questions then emerge whether the tax will be ‘passed-on’ to consumers as major retailers may wish to absorb, and/or have the local bottlers/distributors absorb the tax in order to be price competitive on all carbonated beverages. Consumers may see little or no real price increase in their purchases of sugar-sweetened beverages.

Consumer demand for sugar has been shifting. A study by Statistics Canada found that a decrease in total consumption in sugar between 2004 and 2015, however there was an increase in the proportion of people’s daily calories coming from sugar. The study concluded that sugar intake from food is going up, while sugar intake from

³ Global Food Research Program. (n.d.). *Mexico: evaluation of taxes on SSB & non-essential foods*. Global food research program: University of North Carolina at Chapel Hill. <https://www.globalfoodresearchprogram.org/global-research/mexico-eval/>

⁴ Kagan, J. (2020). *Excise Tax*. Investopedia. <https://www.investopedia.com/terms/e/excisetax.asp>

⁵ Eykelenboom, M., et al. (2021). *Stakeholder views on taxation of sugar-sweetened beverages and its adoption in the Netherlands*. Health Promotion International. <https://academic.oup.com/heapro/advance-article/doi/10.1093/heapro/daab114/6333509>

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beverages is going down. However, beverages remain among the top sources of total sugar for Canadians of all age groups.⁶ The Statistics Canada study also did not account for the type of beverages being consumed. For example, a 355 can of Pepsi has 150 calories and approximately 40 grams of sugar. Another sugar-sweetened beverage that is not subject to the proposed tax is the ubiquitous Tim Horton's 'Double Double' that has 140 calories and approximately 24 grams of sugar plus more sugar from the milk or cream. Questions of fairness emerge by focusing on carbonated sugar-sweetened beverages rather than looking at all the types of beverages and food products that are consumed which contain sugar.

Sugar sweetened beverage taxes may be normally seen as a 'sin' tax. Sin taxes are levied on goods that are considered harmful to consumers or society including alcohol, tobacco, junk food, and sugary products. There are two main motivations for the introduction of taxes on sugary products according to the reviewed academic literature. First, the authorities may simply wish to raise tax revenue. Second, and more commonly, the objective of the tax is to correct for unwanted consumption. The reasons for unwanted consumption include financial health-care costs or internalities (imperfect information about health harms, problems with self-control/time-inconsistency etc.).

There have been significant studies looking at the implications of sugar on health. Identified harms that have been identified through the use of too much sugar include: weight gain, Type 2 diabetes, and cardiovascular disease. Obviously sugar comes in many forms, not just beverages. Financial health care costs or information gaps about these harms are the usual economic rationale for a tax intervention and the implementation of the taxes raises the question of their efficacy. For example, one body of literature is concerned with the effect of the taxes in the United States or Europe. Another looks at the 'fairness' behind these taxes where sugar taxes have been criticized for being regressive, disproportionately affecting the poor.⁷

For example, three studies completed in the United States actually suggest little to no impact on overall employment. In Philadelphia, there was no evidence of a negative direct employment impact two years after the sugar tax was implemented. In California and Illinois, declines in employment within the beverage industry occurred but were offset by new employment in other industries and government sectors. These studies found that sugar-sweetened beverage taxes do not necessarily have a negative impact on state/municipal-level employment, and industry claims of regional job losses are overstated, and may mislead lawmakers and constituents as a result. However, from a Newfoundland and Labrador comparator complex, these were of large US cities and states – not a predominantly rural province in Canada. The job implications studied in the United States primarily focused on manufacturers, not distributors. Most of the tax regimes in the United States were focused on 'point of sale' not collected by distributors as what is being proposed in Newfoundland and Labrador. Context and situation does matter when examining jurisdictions and tax implications.

The wider body of literature shows that the consumption-based taxes can result in significant costs to food and drink industries in terms of implementation costs and changes in sales. Reformulation of products and product size changes requires investment in research and development (R&D), new machinery, and other production processes. In some cases, companies need to invest in marketing to promote new, healthier products, or to avoid public upset over changes to smaller product sizes. These impacts wholly depend on the product's pass-through rate, or the rate to which the cost changes of a product are reflected in the shelf price, and the type of product substitution.

⁶ Source: <https://www.dal.ca/news/2019/01/29/understanding-changing-sugar-consumption-in-canada.html>

⁷ Allcott et al. 2019

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There have been significant number of jurisdictions that have attempted to implement taxes on SSBs as well as the broader area of energy-dense food. While the oldest example of such a tax is Finland, the North American context has been more recent. It is instructive to explore taxes that have been in place, in various forms, in the last ten years.

Hungary and Mexico have imposed taxes on energy-dense foods, or junk food, and has been studied by both health researchers and governments in many other countries. In 2011, Hungary placed a “value added tax” of 27% on packaged food and drinks that contained high levels of sugar and salt in certain product categories, such as soft drinks, candy, fruit jams, salty snacks, and condiments. This was on top of the 25% tax already in place on most foods.⁸ In 2013, Mexico placed an 8% tax on all “non-essential” foods including snacks, candy, nut butters, cereal based prepared products. Foods that surpass a calorie density threshold, more than 275 calories per 100 grams, are to be taxed.⁹

In an evaluation of Mexico’s junk food and beverage consumption two years after the tax was imposed, consumers were purchasing 7% less junk food than prior to the tax (over the 5% decrease in the tax’s first year). In Hungary, the WHO found that junk food and beverage consumption had decreased by 27%, however they felt it was both due to price increases coupled with effective educational campaigns.

In comparing the two countries’ approaches to taxation, researchers found that the tax model in Hungary was the ideal model, as it was more comprehensive, and not solely dependant on the calories contained in goods but in the broader nutritional values. This added nutritional criteria served to incentivize manufacturers in Hungary, as 40% of them altered and reformulated their recipes in order to pass under the tax threshold. Revenue from the first four years of Hungary’s tax led to \$219 million USD for public health spending, and sales of taxable products were reduced 27%. There were found to be about 3 to 10% decrease in revenue for processed food producers, and 30 to 37% decrease in sales in the first two years after the tax. However, three years after the tax was introduced, the negative effects of the tax diminished, likely aided by the Hungarian economy recovering around the same time.

Both Hungary and Mexico’s tax systems have had the greatest impact among the low-income groups and individuals who consume higher levels of junk food and SSBs. Low-income groups often consume higher levels of junk food and sugar-sweetened beverages and are at the greatest risk of diet related disease. For this reason, consumption-based tax can be regressive in the short term, yet progressive in as it pushes consumers towards healthy alternatives.

UNITED STATES

Since 2015, several jurisdictions across the United States have imposed excise taxes on sugar-sweetened beverages, and currently four states are considering implementing statewide taxes. Studies on the impact of sugar taxes in the United States indicate that taxation reduced the sale of SSBs in national chain retailers in Philadelphia and Oakland. One particular study examined a year’s worth of household receipts (6 months before and 6 months after the introduction of the tax) in the four largest cities with sugar taxes in effect - Philadelphia, Pennsylvania; Oakland, California; San Francisco, California; and Seattle, Washington. This method of examination allowed the examiners to find the effects of these taxes easier and measure the effects with greater precision.

Overall, studies found that as the tax on SSBs increase by 1% per ounce, household demand for the products decreased on average of 53 ounces per month, or by 12.2% across all four cities. The tax seems to have minimal

⁸ Biro, A. (2015). Did the junk food tax make the Hungarians eat healthier? Food Policy.

<https://www.sciencedirect.com/science/article/abs/pii/S0306919215000561>

⁹ World Health Organization. (n.d.). Good practice brief. World Health Organization.DF

https://www.euro.who.int/__data/assets/pdf_file/0004/287095/Good-practice-brief-public-health-product-tax-in-hungary.pdf

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impact on consumer behaviour, as these results are comparable to reducing an individual's consumption by 5 calories a day. From the four cities included in the study, the impact level was concentrated in Philadelphia, where the highest excise tax rate at 1.5% per ounce was implemented on a wider variety of beverages, and where the highest levels of pre-tax purchases and consumption existed. The tax coincided with a purchase decrease of 27.7%, and an increase in purchases of sugar-sweetened beverages outside of Philadelphia (cross-border substitution). This effect, the purchase decrease or cross-border substitution, were not found in the other three cities combined.

In a separate study of Oakland, California, it was found that 60% of the tax was passed on to the consumers in the form of higher prices. The minimal decrease in volume purchased, and minimal increase in purchases outside of Oakland, suggests that the price increase did not have a significant effect on purchasing decisions by consumers.

Several states – including Hawaii, California, and Washington - have proposed and implemented taxes that are designed to tax both high sugar beverages and low sugar beverages at the same rate. This system fails to target the actual sugar content and removes the incentive for the manufacturer or consumer to switch out a high sugar product with a low sugar beverage.¹⁰

In a Canadian study completed in 2016, it was determined that if a 20% tax on SSBs was in place over the next 25 years, projected healthcare savings could be as high as \$7.4 billion. At that same rate annually, the government would earn almost \$1.2 billion in tax dollars, and \$29.6 across the entire 25-year period. The total health care savings and revenue for this 25-year period would be approximately \$37 billion. Once again, this did not take into account the behavioural implications and switching costs of implementing a higher tax for SSBs. It was a forecast and the focus was on the whole of Canada, not necessarily provinces such as Newfoundland and Labrador.

SUMMARY – JURISDICTIONAL SCAN AND LITERATURE REVIEW

The evidence base on the impact of SSB taxes is growing worldwide and a number of studies have been published that have evaluated the extent of tax pass-through and impacts on beverage sales, purchases or consumption, and substitution from SSB taxes in countries such as Denmark, France, Mexico, Chile and Barbados (Cawley et al., 2019c). Nine US cities had introduced taxes on sugar sweetened beverages by mid-2019, starting with Berkeley in 2014. Taxes on sugar sweetened beverages also exist in thirty-eight countries in addition to the US including the United Kingdom.¹¹ Finland was the first country to introduce sugar-sweetened beverage taxes in 1940, followed by Norway in 1981 and Samoa in 1984.

The remaining countries introduced the tax in the 2000s, with the majority of countries introducing the tax in the past decade (Allcott et al. 2019b). As more cities and nations introduce sugar taxes, the effect of these taxes becomes an important empirical question. Given that these studies have evaluated national-level taxes, their study designs have generally lacked comparison sites especially to a province such as Newfoundland and Labrador.

By 2021 there are more than 30 countries internationally that have introduced systems to tax high sugar beverages in order to reduce consumption, drive tax revenue, and improve public health outcomes. These sugar taxes have proven to have significant impact on both consumption and the innovation strategies of leading producers especially in the short-term.¹² However, the long-term implications of the taxes, especially from a consumption lens, are

¹⁰ See Appendix for more information about other countries and regions' sugar tax

¹¹ Allcott et al. 2019

¹² Jones, A., Veerman, J., & Hammond, D. (2017). *The health and economic impact of a tax on sugary drinks in Canada*. Heart and stroke foundation. <https://www.heartandstroke.ca/-/media/pdf-files/canada/media-centre/the-health-and-economic-impact-of-a-sugary-drink-tax-in-canada-summary.ashx>

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unclear. Certain jurisdictions, such as Finland, have had broad ‘sugar’ taxes in place for over fifty years. Other recent jurisdictions such as the City of Philadelphia in the United States have very narrow based tax regimes where there were short-term consumption changes. Modelling studies have suggested that a minimum tax of 10 to 20% is necessary to have significant impact; however, the WHO has concluded that an increase of 20% or more in the retail price of “harmful products” could lead to “proportional reductions in consumption”.¹³ Usually the products being taxed are at a much larger scale than what is being proposed in Newfoundland and Labrador.

National and local governments worldwide continue to research, implement, and expand taxes levied on the sale of sugar-sweetened beverages and processed foods. These policies aim to reduce sugar consumption and improve public health, while also providing a new revenue stream to governments. For the most part, manufacturers in the beverage industry have responded through repackaging products to give smaller portion sizes the illusion of appearing larger, and wide-scale re-branding. Producers are also introducing lines of low/zero calorie and unsweetened alternatives.

The review of the literature found the accrued benefits and costs emerging from the implementation of a tax on sugar-sweetened beverages are mixed. Most of the studies reviewed for this report were national or municipal, and did not consider the context of being a relatively small rural province.¹⁴ While most reviewed studies found that the impact of an implemented tax on employment is negligible,¹⁵ the primary focus was the effect on manufacturers not the entire supply chain of inputs (or outputs) that go into the soda production sector. The findings of the effectiveness of a sugar-sweetened beverage tax, especially in a comparable jurisdiction to Newfoundland and Labrador, are mixed and not conclusive.

Although the implementation of the tax did demonstrate some reduction in consumption in the studies reviewed, it was not consistently statistically significant or would seem to have much long-term impact. For example, some taxes have been rescinded, as they have not resulted in the decreased demands expected. In Norway, the tax on sweetened beverages remained high throughout 2020. In 2021, the tax on chocolates and sweets was removed completely, while the tax on sweetened beverages was significantly reduced.

As an anti-obesity policy, taxing sugar-sweetened beverages seems arbitrary. Consumption of both sugar and sugary drinks has been falling for years while obesity has been rising. Soft drinks make only a small contribution to average calorie intake. Taxes on sugar as an input would seem more equitable and fair. Moreover, most of the studies reviewed do not consider the change management implications of implementing a sugar-sweetened beverage tax – especially in a jurisdiction such as Newfoundland and Labrador with significant fiscal and geographic challenges.

There is also evidence that ‘sin taxes’ of this sort take a greater share of income from the poor than from the rich. Since low-income groups tend to buy larger quantities of sugar-sweetened beverages, the impact of the sugar levy will be particularly regressive. Independent studies have found that a reduced demand of taxed and harmful products increases household budgets to spend in other goods, which in turn implies employment replacements for jobs lost in the taxed industries.¹⁶

¹³ CBC News. (2016). WHO recommends tax of at least 20% on sugary drinks. CBC News. <https://www.cbc.ca/news/world/sugary-drink-tax-1.3799648>

¹⁴ Powell, L., et al. (2014). *Employment impact of sugar-sweetened beverage taxes*. AM J Public Health. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4025719/>

¹⁵ Guerrero-López, C. M., Molina, M., & Colchero, M. A. (2017). Employment changes associated with the introduction of taxes on sugar-sweetened beverages and nonessential energy-dense food in Mexico. *Preventive medicine*, 105, S43-S49.

¹⁶ Guerrero-López, C. M., Molina, M., & Colchero, M. A. (2017).

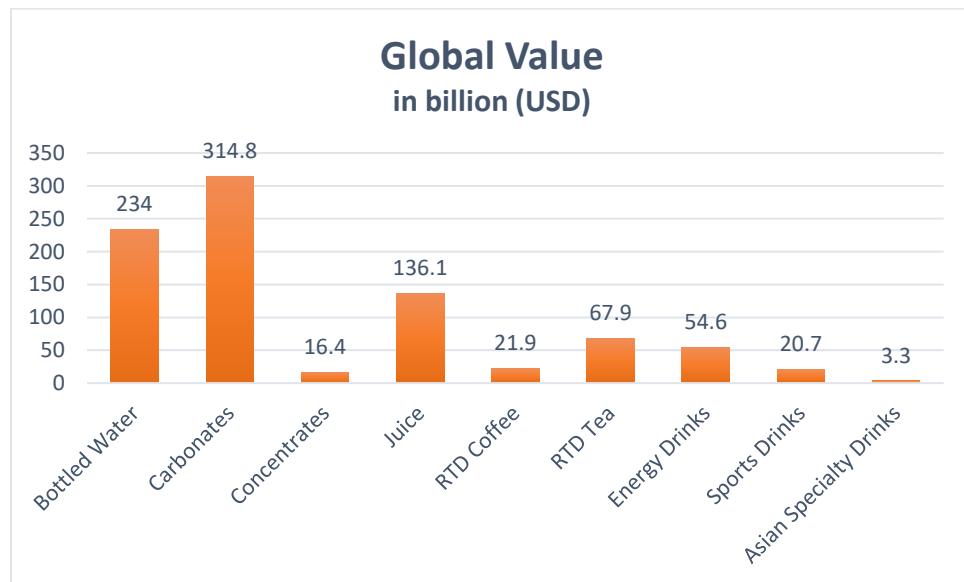
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Overall, the review of the literature found the accrued benefits and costs emerging from the implementation of a tax on sugar-sweetened beverages as mixed. Most of the studies reviewed for this report were national or municipal, and did not consider the context of being a relatively small rural province.¹⁷ While studies indicated the impact of an implemented tax on employment is negligible,¹⁸ the primary focus was manufacturers not the entire supply chain of inputs (or outputs) that go into the soda production sector. The findings of the effectiveness of a SSB tax, especially in a comparable jurisdiction to Newfoundland and Labrador, are mixed and not conclusive.

KEY FINDINGS - ECONOMIC AND BUSINESS RATIONALE

Aside from consumer behaviour, it is important to consider the impact on business and the wider beverage industry.

As of 2020, the global size of the beverage industry was \$869.9 billion USD, and its subcategories are as follows (in billion USD):¹⁹



The Soda Production industry in Canada produces carbonated soft drinks, energy drinks and sports drinks. Over the five years to 2021, industry operators at a national level have endured declining domestic demand for regular and diet soda, mainly driven by growing health concerns among Canadians. The same declining trend holds true for Newfoundland and Labrador. However, the robust growth of energy drink brands has kept the industry from a drastic decline. Producers have also invested in developing or acquiring new noncarbonated drink brands to meet evolving demand for beverages. Overall, it is estimated that industry revenue at a national level to rise an annualized 0.4% to \$3.5 billion over the five years to 2021, including an increase of 0.3% in 2021 alone.²⁰ It is an industry with intense competition and dominant power by a small number of buyers including Walmart as well as national grocery and retail chains such as Loblaws and Circle K.

¹⁷ Powell and Leider 2020

¹⁸ Guerrero-López, C. M., Molina, M., & Colchero, M. A. (2017)

¹⁹ Statista – Soft Drinks in Canada Dossier

²⁰ IBISWorld (2021). **Soda Production in Canada – Market Research Report.** <https://www.ibisworld.com/canada/market-research-reports/soda-production-industry/>

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Moreover, in Newfoundland and Labrador, it is an industry that contributes significantly to the limited manufacturing base as well as logistics/distributing especially in rural Newfoundland and Labrador. From a retail consumer perspective, the industry provides ‘in-demand’ products to both chain and independent stores. Some independent stores use soft drinks, especially sugar sweetened beverages, to prop up consumer demand for other products and to compete against large grocery chains. The large buyers, such as Walmart and national grocery chains, negotiate prices and volume levels significantly in advance. Prices are usually set at a national level and producers/distributors have to implement based on those nationally negotiated rates.

According to the Canadian Beverage Association, its members employ approximately 820 Newfoundland and Labradorians in long-term, well-paid jobs through an established and long-term production facility, 15 distribution centres, and two sales offices as well as indirectly through a logistics/distribution network with delivery contractors, restaurants, and retailers throughout the region. In speaking with industry stakeholders, this business ecosystem was confirmed and it is important to note that the industry in Newfoundland and Labrador operates on a low-return on investment/scale business model. The small, dispersed population makes distributing expensive and costly. Moreover, being on an island means that all products are not manufactured here and some are shipped in via sea. National retailers such as Walmart and Dollarama typically sell carbonated soft drinks at or below cost as a ‘loss-leader’ in order to drive sales of other products within their store.

In addition, despite the poor performance of companies' soft drink business lines, industry revenue has been somewhat offset by growing demand for energy drinks and sports drinks. These products are still in the growth stage of their life cycles, enabling producers to capitalize on the expanding adoption of these functional beverages. Despite growth in this segment, consumption has been curbed by new regulations and media coverage of the health consequences associated with drinking caffeinated and sweetened beverages. At a global level, even with the introduction of healthier soda, sales have been curbed since taxes and bans on soda have been implemented by state and local governments such as what is being proposed in Newfoundland and Labrador. As a result, industry profit has decreased as the price of key inputs, such as sugar and aluminum, fluctuated significantly. Declining industry profit can also be attributed to the COVID-19 (coronavirus) pandemic and the resulting decrease in consumer spending that often occurs during uncertain economic conditions.

Over the five years to 2026, industry operators are anticipated to experience declining soft drink sales. Operators will likely have to contend with intensifying competition from producers in the Bottled Water Production industry and the Juice Production industry, as consumers demand healthier beverages. Furthermore, more individuals will likely substitute regular and diet beverages for carbonated water and ready-to-drink tea, which also provide caffeine and refreshment. Due to these trends, industry revenue for the traditional soft drink industry in Canada is expected to decline, falling an annualized 0.5% to \$3.5 billion over the five years to 2026.

Based on a review of the market analysis, the industry can be classified as having the following trends:

- Craft sodas have also begun emerging as consumer preferences shift toward natural products
- Increasing competition has put pressure on prices, and therefore, on profit as well
- Growing health consciousness will likely cause some consumers to drink substitute beverages
- Despite more companies entering the industry, industry employment is expected to stagnate
- Industry profit has decreased as the price of key inputs fluctuated significantly

Overall, it is a challenging time to operate in the soda production industry in Canada. In Newfoundland and Labrador, it is an industry that contributes significantly to the limited manufacturing base as well as logistics especially in rural

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Newfoundland and Labrador. Moreover, from a retail consumer perspective, the industry provides ‘in-demand’ products to both chain and independent stores. Some independent stores especially use soft drinks, especially sugar sweetened beverages, to prop up consumer demand for other products and to compete against large grocery chains.

In order to better understand the business and economic implications of the proposed tax, a supply chain analysis of the Newfoundland and Labrador sugar-sweetened beverage industry was conducted. Supply chain analysis helps businesses and industries identify the suppliers and/or processes that can be bypassed, reduce inventories, schedule events and programs, and improve forecasts. This increases efficiency, reduces costs and minimizes risks. The supply chain for production of sugar-sweetened beverages may be seen as follows:

SUPPLIERS	CARBONATED SODA MANUFACTURERS	BUYERS
First Tier <ul style="list-style-type: none"> Durable Goods Wholesalers in Canada Industrial Supplies Wholesalers in Canada 		First Tier <ul style="list-style-type: none"> Grocery and Related Product Wholesalers Grocery Wholesaling Soft Drink Wholesaling
Second Tier <ul style="list-style-type: none"> Plastic bottle manufacturing Aluminum manufacturing Syrup and flavouring production 		Second Tier <ul style="list-style-type: none"> Vending Machine Operators Gas stations and convenience stores Supermarkets and grocery stores Speciality food stores

In Newfoundland and Labrador, using this supply chain analysis, most of the pressure and cost from the implementation of the proposed tax will be placed on First Tier Suppliers and Second Tier Buyers. First Tier buyers have incredible buying power. For buyers who are Second Tier, especially independent stores, the proposed sugar-sweetened beverage tax adds to existing business taxes, airport taxes, warehouse fees etc. From a supply chain perspective, the already relatively high cost of doing business in Newfoundland and Labrador would increase further, putting the businesses of the province who produce, distribute, and sell sugar-sweetened beverages at risk through encouraging out-of-province purchasing and inflated consumer costs. From a supply chain perspective, the tax implications will also potentially add complexity and cost. For example:

OUT OF PROVINCE SUPPLIERS

- A Wholesaler or Distributor Tax in Newfoundland and Labrador would unequivocally open the door immediately for 3rd parties to source product from outside Newfoundland and Labrador and ship to the province for re-sell, thus totally circumventing the Tax and any intended benefits.
- The savings per trailer equates to ~ \$5,500.
- Potentially there are numerous external parties who would exploit the tax arbitrage
- Newfoundland and Labrador simply does not have the resources to regulate and enforce cross-provincial sales of sugar-sweetened beverage

MARKETPLACE AND CONSUMERS

- A Wholesale or Distributor Tax has the distinct and likely outcome of not delivering any meaningful or measurable benefits in terms of improved health outcomes. Buyers, especially large global and national

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retailers, are price makers not price takers. They may insist the producers and distributors absorb the tax in Newfoundland and Labrador.

- Such a structure would immediately result in non-application ‘pass-through’ of the Tax and not result in reduced consumption.
- Some wholesalers or distributors may also choose to absorb proposed tax, others may pass it on. As a result, the potential for the tax to not be acknowledged or applicable could be inevitable.

Overall, the proposed tax will have implications throughout the supply chain in Newfoundland and Labrador but would intuitively disproportionately affect local producers, distributors/wholesalers and retail operations. More thought on the implications of the proposed sugar-sweetened beverage tax will be needed especially on the supply chain in Newfoundland and Labrador.

VALUE CHAIN ANALYSIS

The value chain disaggregates an organization into its strategically relevant activities to understand the behaviour of costs and the existing and potential sources of differentiation. The appropriate degree of disaggregation depends on the economics of the activities and the purposes for which the value chain is being analysed.

Specifically, a value chain is a collection of value activities in the life cycles of the major products and/or services provided by the business segment. A key characteristic of the Newfoundland and Labrador refreshment beverage industry from a value chain perspective is that the economic benefits are spread all over the province. Manufacturing activities tend to be located in St. John’s, while other activities, such as distribution or warehousing, take place across other parts. The entire province therefore benefits from the presence of the beverage manufacturing industry. The distribution of jobs in the refreshment beverage industry is also related to the population distribution, which means that the wealth is spread across Newfoundland and Labrador. In addition, there are great many activities that make up the value chain for the beverage industry in Newfoundland and Labrador.

INPUT SUPPLIERS

- Syrups and Concentrates
- Packaging Supplies
- Equipment and Machinery
- Financial Services (Accounting, Insurance, Other Financial Services)
- Legal and Professional Services
- Consulting Services

MANUFACTURER/BOTTLER

- Operational functions – production, procurement, inventory, logistics
- Finance and Administration – finance, management, human resources etc.
- Facility Management – construction, renovation, maintenance and repairs
- Processing Innovation – R&D, Consumer Testing, Environmental Sustainability, Packaging Innovation etc.
- Marketing – marketing and sales activities including advertising, sponsorship activities

DISTRIBUTOR

- Transportation and handling
- Storage

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- Controls and licensing

RETAIL

- Grocery and supermarkets
- Corner stores
- Restaurants and bars

CONSUMER

- Consumers buy sugar-sweetened beverage in a number of different channels: supermarket chains, chain and independent corner stores, restaurants etc.

It is also possible to see the implications of the proposed sugar-sweetened beverage tax from a value chain analysis. For example:

LOGISTICS/DISTRIBUTION

- Vendor and Retailer ship and receive respectively products by package grouping.
- All deliveries exceeding more than one SKU per pallet, would need to be broken down by layer, verified, and scanned Zero Calorie vs. Caloric SKU's. The costs and productive losses would be monumental.
- Picking and loading time for Vendors would increase exponentially, as would receiving times for Retailers, resulting in higher costs for both parties.

INFORMATION SYSTEMS

- All Vendor, Distributor & Retailer Systems would require re-programming to fully duplicate packaging groupings for all package types – Zero Calorie vs. Caloric offerings in all package sizes.
- This duplication will subsequently need to be reflected on-going in all Vendor/Retailer processes: Feature allowances, Cost Changes, New Product Listings.
- The lead times just for initial set up is extensive and there are consistent, long-term negative cost implications.
- External resources may be required; availability & time requirements are unknown.

In a 2014 study for the Canadian Beverage Industry, KPMG found that for every dollar of production in the refreshment beverage industry, 88% is retained in the Canadian economy and generates added-value through the direct, indirect and induced impacts, 10% higher than the average for the overall manufacturing industry. Sugar sweetened beverages are already taxed through HST/GST. As well, other tax revenues that the sugar-sweetened beverage industry pays include those on products, wages and salaries and consumption taxes.

Using the supply and value chain analysis, a number of risks emerge for the businesses involved in the refreshment beverage industry as well as the wider economy in the province.

MARKET RISKS

If the proposed tax is implemented, volume could be drastically reduced which would affect operations and viability of some of the distributors and wholesalers.

HUMAN RESOURCES

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There may be direct and indirect risks to the existing jobs within the sector through the form of layoffs and redundancies both for members of the Canadian Beverage Association and their suppliers if the tax is implemented. For example, third party service providers will be less in demand for fixing equipment such as coolers.

FINANCIAL RISKS

Carbonated soda beverages are already being taxed under HST/GST, so questions emerge as the fairness of a tax within a tax. As well, there will be the potential of the proposed tax not being applied at the point of sale, as distributors/wholesalers may be asked to absorb some or all of the tax by major buyers.

OPERATIONAL RISKS

There will be increased operational risks and costs due to the implementation of the tax. For example, there will be a Distributor Pricing system reconfiguration cost. As well, there will be a cost to each distributor in administration time and resources to process tax collections and remit to the provincial government after set up. Costs around regulation controls, policing, inventory counts , etc. will need to be taken on by industry participants who are already struggling in a tight margin sector that has endured already significant cost increases since the pandemic. Finally, there will be a cost for distributors to deal with payment issues by the national customers because of the tax.

LOGISTICS

Distributors spend significantly to bring in goods for the manufacture, sale, and distribution of beverages in the province. If volume drops so does that spend. Logistics risks also emerge due to the added length necessary to delivery times to break down and count every case vs just scanning a full load of cans. This extra amount of extra time per stop may mean the need for a new truck maybe as well as labor costs all of which will have to be absorbed by the distributor/wholesaler. These additional costs, as well as the added ones necessary to track each sale sugar vs no sugar might make it just not worth the business anymore. This also poses a risk around a number of lost jobs.

COMPETITION

Industry participants all noted the possibility of a ‘black market’ developing in non-taxed beverages. For example, a distributor who is not licensed in the province can approach an entity in Nova Scotia where they could buy 20 skids of cans in Halifax and ship to Newfoundland. They could then sell it as a non-legitimate distributor with no tax. One load of 24pk cans = \$4,400 in proposed tax. This ‘black market’ will result in sales losses in the province and potentially job losses.

As mentioned above, the power of the buyer is significant. If the proposed tax is not collected at point of sale tax, then large national retails can also easily blend that cost increase across the 98.5% of Canada that does not have the tax and charge the same price to Newfoundland and Labrador customers. This means that there is no increase in their retail-selling price, no change in consumption, and results in business loss for local distributors and manufacturers, as they cannot compete.

REPUTATIONAL/CORPORATE SOCIAL RESPONSIBILITY

With increased competition, lower margins, and profitability the sponsorships and corporate social responsibility activity that is displayed by producers and distributors in the province may be affected.

Overall, the tax would seem to be an incredibly risky proposition for participants in the industry in the province as well as the economy as a whole.

KEY FINDINGS – TAX AND SOCIAL IMPLICATIONS

COST TO THE INDUSTRY & PASS-THROUGH RATES

The tax itself is the greatest cost to the industry, and can either be absorbed, reducing the profit margins of the product, or passed on to the customer in the form of a price increase. For taxes to have the desired impact on consumption, based on the jurisdictional scan and literature, it is recommended that manufacturers pass the entire tax on to the consumer, which in turn mitigates the affect on the industry. The immediate response to sugar taxes has, in the majority of the jurisdictions reviewed, put the burden on the consumer, as the costs of sugar-sweetened beverage have substantially increased. This will potentially not be the case in Newfoundland and Labrador, so the effectiveness of the tax will be questionable.

STRUCTURE OF THE TAX

Experts suggest that as the industry remains in the early stages of global sugar-sweetened beverage taxation, long term and effective taxes are likely to be structured according to sugar threshold per volume (tiered), with a phased implementation approach and an incremental increase/adjustment that will prove to incentivise manufacturers to reformulate, downsize and innovate with local demand.

From the jurisdictions and literature reviewed, the more successful taxes regime were comprehensive, including a wider variety of products that were subjected to a higher tax rate. A tiered structure of the excise tax appears to alter the formulation of products to be healthier, while also decreasing consumption rates by consumers. The proposed approach in Newfoundland and Labrador does not consider a tiered structure and equity/fairness issues emerge around not taxing other sugar-sweetened products. The question remains – *why not just tax sugar?*

Food and beverage taxes decrease consumption levels and sales of unhealthy products, at varying degrees, depending on what is taxed, and the structure of the tax. In other jurisdictions, advocates of these forms of taxes do not believe that it will be a panacea, as the marketing power behind the multinational corporations who make the products and their addictive nature are engineered to keep the consumers as customers. The literature also shows that educational campaigns should be implemented in tandem with the tax on junk food and sugar-sweetened beverage, and in some cases, could replace the tax.

TAX REVENUE

In some cases, especially in jurisdictions that imposed a low or single tax rate (non-tiered), there was little decrease in consumption. And, in these cases, there is high revenue generated for the government.

The revenue from excise taxes should be used to aid the harm associated with the product consumption, or to create a subsidy for lowering costs of healthy foods. Because of the proposed tax's narrow base and potential regressive nature, it is not a suitable source of general fund revenue.

SOCIAL IMPLICATIONS

In other jurisdictions, a sugar-sweetened beverage tax has led to steep increases in the retail price of common household consumer products. As a result, this can be considered a regressive form of taxation, disproportionately affecting the consumption habits of low-income consumers. People with higher levels of education — and perhaps more knowledge about health and nutrition — are likelier to choose healthier foods.

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In a 2017 study by the New Zealand Institute of Economic Research presented to its Ministry of Health²¹ that explored an assessment of the evidence for sugar taxes as a fiscal instrument to improve health, there were some interesting findings that are relevant to Newfoundland and Labrador. The study was based on forty-seven peer-reviewed studies and working papers published in the last five years that were reviewed, summarised and assessed for key methodological issues. The New Zealand study found that experience with sugar taxes is complicated by inconsistencies in their design and context. Most sugar taxes apply to sugar-sweetened beverages, but some also include pure fruit juices or other foods with high sugar content. Some are valoric taxes while others are volumetric. As well, some taxes were implemented alongside other measures to improve diets or increase awareness of the danger of excess sugar consumption. Sugar taxes are also implemented in some jurisdictions as a means to raise additional tax revenue, with no particular expectation that any reduction in intake will translate into health benefits but sometimes with revenues being earmarked for health programmes. In summary, the New Zealand Institute for Economic Research found that:

- Taxes do generally appear to be passed through to prices and some reduced demand is likely – it is important to note that is unlikely in Newfoundland and Labrador that there will be a complete pass through on prices because of the power of the national buyers
- Estimates of reduced intake are often overstated due to methodological flaws and incomplete measurement
- Price elasticities from early studies with fundamental methodological flaws have later been used in a number of other studies to assess the impact of sugar taxes, resulting in significantly overestimated reductions in demand
- There is insufficient evidence to judge whether consumers are substituting other sources of sugar or calories in the face of taxes on sugar in drinks
- Studies using sound methods report reductions in intake that are likely too small to generate health benefits and could easily be cancelled out by substitution of other sources of sugar or calories
- No study based on actual experience with sugar taxes has identified an impact on health outcomes
- Studies that report health improvements are modelling studies that have assumed a meaningful change in sugar intake with no compensatory substitution, rather than being based on observations of real behaviour.
- The evidence that sugar taxes improve health is weak.

The reviewed literature also showed that from a social implication perspective households have very heterogeneous preferences for sugary colas and have different price sensitivity. Heavy sugar consumers tend to prefer sugary to diet colas but are less sensitive to cola prices. This finding suggests that although taxing sugary colas can be justified on public health grounds, this policy would not have a greater impact on the targeted population. Context and culture matter. In Newfoundland and Labrador, with its long history of consumption of sugar-sweetened beverages, the targeted population may not respond positively to a tax – they will simply absorb the cost. In the review of the literature and jurisdictional scan, policy makers, public health officials, and advocates have developed a variety of approaches to reduce exposure to and consumption of sugar-sweetened beverages. The approaches may be organized into four categories: financial, information, defaults, and availability.

FINANCIAL POLICIES increase the price of sugar-sweetened beverage relative to healthier options and include taxes, restrictions on price or volume promotions (e.g., buy-one-get-one-free offers for soda), and incentives for purchase of unsweetened beverages (e.g., lowering the price of unsweetened beverages relative to sweetened ones).

²¹ Wilson, P. and Hogan, S. (2017, August). Sugar Taxes A Review of Evidence. NZIER report to Ministry of Health <https://thinkasia.org/handle/11540/7992>

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INFORMATION POLICIES seek to reduce the public's exposure to marketing of SSBs or increase awareness of the health risks that SSBs pose. These policies include front-of-package and advertising warning labels and marketing restrictions (e.g., no advertising during children's television programming).

DEFAULT POLICIES, such as requiring a healthy drink in kids' restaurant meals, make the choice of a healthy beverage automatic.

AVAILABILITY POLICIES decrease access to SSBs or reduce portion sizes. They include beverage procurement (e.g., purchase or placement of beverages within various settings) and healthy checkout aisle (e.g., lanes at the grocery store that display healthier options) policies. The policy examples provided in each category are illustrative; a wide variety of approaches within each could be used for SSB reduction.²²

Financial policies, in the form of a SSB tax, are just one approach that a jurisdiction can use to address the potentially harmful affects of over consumption of sugar-sweetened beverages. Information, default, and availability policies may be more effective in the medium to long term, creating more sustainable, impactful change.

LIMITATIONS

As with every study, this one has limitations. The lack of publicly available financial and consumption data specific to Newfoundland and Labrador was the major limitation. The lack of jurisdictional studies that explored places such as Newfoundland and Labrador was another limitation. While the literature search and jurisdictional scan was comprehensive, there is always a risk that particular studies were missed.

There was also important limitations to note in the academic literature that studied the implications In the review of the academic literature exploring consumer implications, the most common data source in the existing literature is so-called scanner data. The scanner data, which is predominantly American-based, relies on individual households scanning the bar codes of their grocery purchases. This data source may be prone to measurement error, especially for consumption of items that may be considered "bad" by society. Moreover, studies published using scanner data are on a much larger scale than what is needed to understand the impact of the proposed tax on Newfoundland and Labrador especially on the business and industry ecosystem.

It is important to note that there were other additional lens that the proposed tax may be viewed negatively including gender-based or equity. The viewpoint that the tax may be seen as regressive also emerged and could be explored in detail in the report. The focus of this report is the business and economic implications in Newfoundland and Labrador, the narrow focus could be seen as a limitation in and of itself.

SUMMARY ANALYSIS

There are two main motivations for the introduction of taxes on sugary products. Firstly, the authorities may simply wish to raise tax revenue, which would not seem to be the case in Newfoundland and Labrador given the small tax-base. The cost of implementation of the tax in the short to medium term would seem intuitively to outweigh the potential revenue gained. Secondly, and more commonly, the objective of the tax is to correct for unwanted consumption. Changing unwanted consumption patterns would seem to be the impetus for the proposed

²² Krieger, J., Bleich, S. N., Scarmo, S., & Ng, S. W. (2021). Sugar-sweetened beverage reduction policies: Progress and promise. *Annual Review of Public Health*, 42, 439-461.

Newfoundland and Labrador tax yet the question remains – *is a tax on sugar sweetened beverages the most effective way to change consumption?*

Because policies to reduce sugar-sweetened beverage consumption often face strong opposition especially from consumers, ground-softening activities (e.g., grassroots organizing and sugar-sweetened beverages public awareness campaigns) can help to increase political feasibility. Where sugar-sweetened beverage taxes have failed to change consumption patterns, they have disregarded consumer behaviour and the preferences that we have for brands, tastes, and consumption patterns. Newfoundland and Labrador's love affair with sugar-sweetened beverages, whether as a mixer, e.g. Lambs and Coke, or a stand-alone drink, e.g. a Pineapple Crush with a feed of fish and chips, will not be diminished by a 20% increase in price. Understanding where and how consumer buy sugar-sweetened beverages in Newfoundland and Labrador is an important component of exploring the tax. Large, national retail firms hold a significant market share in the sales of sugar-sweetened beverages. For a province with a small population such as Newfoundland and Labrador, the 'pass-through' implications of the tax may be less because national chain may be willing to 'absorb' the tax into the price utilizing it as a loss-leader. How and why Newfoundland and Labradorians purchase sugar-sweetened beverages has to be considered in the implementation of the tax – not just an arbitrary \$0.20 cents on every litre sold.

Moreover, the implications to business and the economy with the implementation will be significant with risks emerging around human resources reduction (i.e. layoffs), business model feasibility (i.e. some businesses shutting down), logistics (i.e. shipments to smaller rural communities) as well as significant compliance and operational costs. There is also the potential for a 'doom loop' to the soft drink manufacturing and distributing industry – a feedback loop which means each action makes the situation worse for the industry - leading to even more risk for the overall Newfoundland and Labrador economy.

No single policy such as a tax will immediately reduce sugar-sweetened beverage consumption to perceived healthy levels. It is symbolic rather than an all-encompassing solution to the health outcomes that come from consuming too much sugar. Current and future policies should be dynamic, adapting to changing market and consumption trends as well as to emerging science. Scaling sugar-sweetened beverage policies with demonstrated effectiveness, testing innovative approaches, and implementing multiple tactics to address consumption related issues concurrently will also help to maximize impact. Newfoundland and Labrador needs a comprehensive approach to address health outcomes and sugar-sweetened beverage that is fair to industry and business stakeholders as well as consumers. A comprehensive approach will take time and industry collaboration but will be more effective in the medium to long term to ensure more positive health outcomes for Newfoundland and Labradorians.

Overall, the evidence that sugar taxes alone improves health is weak. However, there is strong evidence that the impact on business and industry, across the supply and value chain, will be significant. There are significant risks to the beverage business industry participants in Newfoundland and Labrador if the proposed sugar sweetened beverage tax is implemented.

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APPENDIX – SELECTED JURISDICTIONS, TAX RATES, AND IMPACTS

Tax rate and effect and sales by select geography (from the Global Health Advocacy Incubator) ¹⁶ :		
Country/Geography	Tax rate and relevant details	Impact
Barbados	<ul style="list-style-type: none"> • 10% tax on SSBs, including carbonated soft drinks, juice drinks, sports drinks, fruit juices • Excludes bottled waters, 100% juices, coconut water, unsweetened milk, and powdered drink • Implemented in 2015 	By October 2016, one year after implementation, the tax: <ol style="list-style-type: none"> 1) Decreased weekly SSB grocery store sales by 4.3% 2) Increased sales of non-SSBs by 5.2%.
Berkeley (California, United States)	<ul style="list-style-type: none"> • 1 cent per ounce tax on beverages with caloric sweeteners • Excludes dairy drinks, diet sodas, fruit juice • Implemented in 2015 	By 2016, one year following implementation, the volume of SSBs sold decreased by 10%.
Catalonia (Spain)	Sugar-content based tax of: <ul style="list-style-type: none"> • 0.08 Euro per liter for SSBs containing 5-8 grams of sugar per 100ml • 0.12 Euro for SSBs containing more than 8g of sugar per 100ml • Includes soda drinks, fruit juices, sports drinks, teas and coffees, energetic drinks, sweetened milks, and flavored waters • Excludes natural fruit juices, fermented milk drinks, and drinkable yogurts • Implemented in 2017 	Within the first year of implementation, the sale of taxed beverages decreased 7.7% at one major supermarket chain, representing 10% of the Catalan market share. In 2019, two years after implementation, the tax reduced regular cola purchases by 12.1%.
Chile	A tiered tax of: <ul style="list-style-type: none"> • 18% on SSBs containing at least 6.25 grams of sugar per 100ml • 10% on SSBs with less than 6.25 grams of sugar per 100ml • Includes all non-alcoholic drinks with added sweeteners • Excludes 100% fruit juices and dairy based beverages 	By the end of 2015, one year following the 3% tax increase (from 15% to 18%), the tax led to a: <ol style="list-style-type: none"> 1) 3.4% decrease in the volume, and 2) 4.0% decrease in calories of monthly households purchases of beverages

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	<ul style="list-style-type: none"> These tax rates were implemented in October 2014, increasing the tax rate of SSBs containing high amounts of sugar by 3% (from 15% to 18%) 	containing at least 6.25 g of sugar per 100ml
Cook County (Illinois, United States)	<ul style="list-style-type: none"> 1 cent per ounce tax on SSBs and ASBs Included sodas, sweetened teas and coffees, energy and sports drinks, and fruit drinks Excluded 100% juices, milk, and milk substitutes Implemented in August 2017 	<ul style="list-style-type: none"> From its implementation in August 2017 to December 2017, the tax led to a 25.7% decrease in the volume of taxed beverages sold (including both SSB and ASB). Following the repeal of the tax in December 2017, volume sold returned to pre-tax levels.
Mexico	<ul style="list-style-type: none"> 1 peso per liter (~10% price increase) tax on all non-alcoholic beverages with added sugar Excludes 100% juices and artificially sweetened beverages Implemented in January 2014 	<ul style="list-style-type: none"> Reduced purchases by 6% by the end of 2014, the first year of implementation Reduced purchases by 10% by the end of 2015, 2 years after implementation Sustained its impact and decreased purchases by another 2% during the third year of implementation
Philadelphia (Pennsylvania, United States)	<ul style="list-style-type: none"> 1.5 cents per ounce tax on sugar sweetened and artificially sweetened beverages (ASBs) Excludes products containing more than 50% milk and 100% fruit juices Implemented in January 2017 	<ul style="list-style-type: none"> By December 2017, one year following implementation, purchases of taxed beverages (<i>both SSBs and ASBs</i>) decreased by 38%. Two years following implementation, taxed beverages purchased at independent stores in Philadelphia decreased by 42%.
Oakland (California, United States)	<ul style="list-style-type: none"> 1 cent per ounce on SSBs Excludes products with 25 calories or less per 12 ounces and milk products Implemented in July 2017 	One year following implementation, volume of taxed SSBs sold decreased by 8%.
Saudi Arabia	<ul style="list-style-type: none"> 50% tax on carbonated beverages Includes any drink containing dissolved carbon dioxide gas 	By 2018, six months following implementation, the tax led to a 33%

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	<ul style="list-style-type: none"> • 100% tax on energy drinks • Implemented in June 2017 	reduction in carbonated drink volume sales
Seattle (Washington, United States)	<ul style="list-style-type: none"> • 1.75 cent per ounce tax on SSBs with at least 40 calories per 12 ounces • Excludes diet sodas, milk products, 100% fruit juices, and powders and concentrates • Implemented in January 2018 	In the first year of implementation, the volume sold of all taxed beverages fell by 22%. Sales of soda fell by 29%.
South Africa	<ul style="list-style-type: none"> • Sugar-content based tax of 2.21 cents ZAR for each gram of sugar in a beverage that contains over 4g sugar per 100mL. • Excludes fruit juices • Implemented in 2018 	Compared to expected trends prior to the implementation of the tax, by March 2019, one year after implementation, there was a: 1) 51% reduction in sugar, a 52% reduction in calories. 2) 29% reduction in volume of beverages purchased per person per day after the tax was implemented.
United Kingdom	<p>Sugar-content based tax of:</p> <ul style="list-style-type: none"> • £0.24 per liter for products containing more than 8g sugar per 100ml, • £0.18 per liter for 5-8g sugar per 100ml, • Products containing less than 5g of sugar per 100ml are exempt • Includes soft drinks and excludes fruit juices and milk-based drink • Implemented in 2018 	By 2018, two years after the tax's announcement and months after its implementation: 1) The volume of sales of soft drinks subject to the tax fell by 30%.