



# REPORT ON FISCAL POLICIES TO REDUCE CONSUMPTION OF SUGAR- SWEETENED BEVERAGES AND OTHER REGULATORY MEASURES TO PROMOTE HEALTHY DIETS IN ANTIGUA AND BARBUDA



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## 1. Background

This report was developed by the Pan American Health Organization (PAHO)/World Health Organization (WHO) and Professor Lisa M. Powell, University of Illinois at Chicago, to provide technical guidance to implement fiscal policies to promote healthy diets and other complementary measures to reduce the consumption of unhealthy foods in Antigua and Barbuda.

The report will support the Government of Antigua and Barbuda in its efforts to successfully implement actions of the National Multi-sectoral Action Plan for the Prevention and Control of Noncommunicable Diseases in Antigua and Barbuda (2015-2019), and specifically with respect to policy actions to reduce the consumption of sugar-sweetened beverages (SSBs) such as regular carbonated (soft) beverages, energy drinks, sports drinks, sweetened tea and coffee drinks, enhanced water (flavored) and fruits drinks with added-sugar. A series of face-to-face consultation meetings with various key Ministries and stakeholders (See Annex 1) was conducted (March-July 2017) to collect and analyze existing data, assess policy development within the context of the current tax system in Antigua and Barbuda, and identify challenges, gaps and opportunities for promoting healthy environments through implementation of fiscal policy on SSBs. Presentations and discussions on fiscal policy for SSBs primarily for prevention and control of childhood obesity, including sensitization of such policies, were made for Prime Minister Browne and his Cabinet Members at Cabinet Meetings on March 29, 2017, as well as on July 12, 2017.

### 1.1 Policy context and rationale for taxation of Sugar-Sweetened Beverages (SSBs)

The high burden of noncommunicable diseases (NCDs) is a major challenge for social and economic development in the Caribbean Region. The four principal NCDs are cardiovascular diseases (CVD), cancers, chronic respiratory diseases and diabetes. These NCDs have four shared risk factors: tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity leading to obesity. In the Region of the Americas, NCDs were responsible for an estimated 4.8 million deaths (79% of all deaths) in 2012. Thirty five percent of these NCD-related deaths occurred prematurely in persons aged 30 to 70 years. CVD is the leading cause of NCD mortality, accounting for 38% of all NCD deaths, and together with cancers account for 65% of all premature NCD deaths.<sup>1</sup> In Antigua and Barbuda, premature mortality (2015) due to NCDs is 40%.<sup>2</sup>

Over the past few decades, obesity/overweight and related NCDs have progressively increased in every age group and have become the major cause of death and disability in the Americas Region (55% of all causes in 2012), according to WHO Global Health Estimates.<sup>3</sup> The growing problem of NCDs is occurring in tandem with several nutritional deficits (e.g., low intake of iron, zinc, vitamin A, folate, and other micronutrients) that result from poverty and monotonous (non-diverse) diets and remain significant in the Andean, Central America, and Caribbean sub regions.

The prevalence of obesity and overweight in the Americas (62% of adults more than 20 years old) is the highest among all WHO regions. Obesity and overweight affect around 7 in every 10 adults in Mexico, Chile and the United States. Likewise, in children and adolescents, prevalence rates have grown steadily and available data show that 20% to 25% are overweight or obese.<sup>4</sup>

Scientific knowledge about the influence of specific dietary intake patterns on the development of obesity/overweight and other NCDs is fairly robust.<sup>5,6</sup> Collectively, the evidence supports the need to protect and promote the consumption of unprocessed and minimally processed foods, and freshly prepared dishes made with them, plus certain culinary ingredients (butter, honey, lard, plant oils, salt, sugar, and other single substances extracted directly from food or nature and used as ingredients in culinary preparations) and to discourage the consumption of processed and ultra-processed food products.

There are clear and alarming trends in the Americas indicating rapid replacement of unprocessed or minimally processed foods and freshly prepared dishes by ultra-processed products. For example, the relative contribution of ultra-processed products to the overall energy supply of families increased from 19% to 32% in Brazil between 1987 and 2008, and from 24% to 55% in Canada between 1938 and 2001.<sup>7,8</sup> In Latin America, food sales data in 13 countries show that between 2000 and 2013, sales of sugar-sweetened beverages (SSBs) increased by an average of 33%, whereas sales of ultra-processed snacks have risen by 56% and discretionary foods have a high contribution to energy intake.<sup>9, 10</sup> These changes are significantly related to simultaneous increases in the general population’s average body mass index (BMI) in the same countries.<sup>10</sup> While such food consumption data are not available in the Caribbean, surveys in a few countries in that sub-region indicate high consumption of SSBs and limited intake of fruits, vegetables, and water—trends that are significantly associated with obesity/overweight in children and adults.<sup>11</sup> A recent survey in the Region of Americas shows that 50%–60% of respondents who reported consuming ultra-processed snacks in the past month did so for meal replacement, suggesting displacement of traditional diets.<sup>12</sup> Definitions for SSBs are indicated below.

**Definitions**

**SSBs** – beverages that contain caloric sweeteners, such as sugar or high fructose corn syrup that have been added to them. Although not limited to this list, SSBs include the beverages outlined in the table below.

Type of SSB	Definition
Soft drinks/Soda	Non-alcoholic, calorically sweetened, carbonated or non-carbonated beverages typically sold in bottles or cans
Fruit drinks/juice	Diluted fruit juice beverages with added caloric sweetener
Sports drinks	Beverages with added caloric sweetener, electrolytes, and other nutrients that are designed to help athletes rehydrate
Tea, coffee drinks	Tea and coffee beverages that have added caloric sweetener
Energy drinks	Typically carbonated beverages that contain added caloric sweetener, caffeine, and often vitamins, amino acids, and herbal stimulants
Flavoured water	Flavoured water with added caloric sweetener
Sweetened milk/ Milk alternatives	Milk or milk powder blended with caloric sweeteners and sometimes other flavourings

Source: PAHO Policy Brief: Taxing Sugar-Sweetened Beverages: An Effective Strategy for Curbing Latin America’s Obesity Epidemic

Overweight and obesity are leading causes of death in the Region of the Americas and risk factors for various NCD’s, such as diabetes, heart disease, and certain cancers. They are defined using body mass index (BMI), which is a measure based on height and weight.

Overweight	Obesity
Adults: 25 ≤ BMI < 30 Children: 85 <sup>th</sup> ≤ BMI < 95 <sup>th</sup> percentile, adjusted for age and sex	Adults: BMI ≥ 30.0 Children: ≥ 95 <sup>th</sup> percentile, adjusted for age and sex.

Obesity affects a significant proportion of people globally. Diets high in fat and sugars are energy-dense and contribute to overweight and obesity.<sup>13</sup> The literature has established a significant link between consumption of free sugars with overweight and obesity and poor oral health. Increased consumption of free sugars, particularly in the form of SSBs, is associated with weight gain in both children and adults and with poor oral health.<sup>14, 15</sup> There is also some evidence that reduction in SSB consumption is associated with weight loss.<sup>15, 16</sup> A study using econometric models of repeated cross-sectional data on diabetes and nutritional components of food from 175 countries, reported that every 150 kcal/person/day increase in sugar availability (corresponding to 12 ounces of sugar-sweetened beverage, i.e., approximately 354 mL) in the country's food system was associated with a 1.1% increase in prevalence of diabetes mellitus.<sup>17</sup>

## **1.2 WHO Guidelines on sugars**

The WHO Guidelines on sugars intake for adults and children recommends reducing the intake of free sugars to less than 10% of total energy intake, approximately 12 teaspoons of sugars per day.<sup>18</sup> Furthermore, it recommends a further reduction to below 5% of total energy intake, or about 6 daily teaspoons, for additional health benefits. The PAHO Nutrient Profile Model<sup>19</sup> (free sugars, sodium, saturated fat, total fat and trans-fatty acids) which is consistent with the WHO Population Nutrient Intake Goals (PNIGs) to prevent obesity and related NCDs provides clear guidance for the Member States to develop effective policies to halt the obesity epidemic in the Region.<sup>19</sup> Establishment of taxation policies to limit consumption of unhealthy foods and SSBs is one of the policy options strongly recommended to Member States by PAHO/WHO.

## **1.3 Cost of obesity**

Obesity is a significant driver of preventable chronic diseases and high healthcare costs. Additionally, obesity is associated with other costs: productivity, transportation, and human capital costs. Job absenteeism (productivity costs due to employees being absent from work for obesity-related health reasons) and 'presenteeism' (lower productivity while at work) create significant costs for employers each year.<sup>20</sup> Limited evidence exists on the costs of obesity for the Caribbean but costs have been estimated for 5 English-Caribbean countries for diabetes. A total of 320,000 estimated persons with diabetes were associated with 17,400 years of productive life lost with an indirect cost of \$50 million USD and a further cost from disability of approximately \$760 million. Direct costs from medication, hospitalization, consultations, and complications were estimated to be approximately \$220 million USD.<sup>21</sup>

## **1.4 Fiscal policy measures**

Fiscal policies are a key part of a package of regulatory policies, such as marketing restrictions and labelling, school food policies and labelling of foods that help improve the food environment. While a comprehensive strategy is required to control growing rates of overweight and obesity, and to encourage healthier dietary intake and lifestyles, fiscal policies are effective complementary tools to mitigate the obesity epidemic at a population level. There is growing evidence of the importance of taxes on SSBs as part of a comprehensive approach to reduce SSB consumption, encourage the consumption of healthier alternatives, improve accessibility for healthy choices and prevent obesity.

The Global Action Plan for the Prevention and Control of Noncommunicable Diseases (2013-2020), the Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition 2012 and the Report of the WHO Commission on Ending Childhood Obesity (2016) recommend trade measures, taxes and subsidies that discourage the consumption of unhealthy diets and create incentives to improved access to healthier foods and encourage behaviours associated with improved health outcomes.

The WHO Technical Meeting on Fiscal Policies on Diet of May 2015 concluded that appropriately designed fiscal policies, when implemented with other policy actions can reduce the obesogenic environment and promote healthy diets.<sup>22</sup> The evidence is strongest for taxes on SSBs, with taxes projected to lead to significant reductions in SSB consumption by discouraging purchase of SSBs, leading to net reductions in caloric intake.<sup>23</sup>

Fiscal policy measures on SSBs need to take into account a comprehensive view of outcomes and benefits to the population. In addition to reducing consumption of free sugars and thus, reducing obesity, benefits to the populations are even higher if tax revenues are used for targeted obesity prevention and health promotion and/or targeted subsidies for healthier options are provided. Earmarking will improve the transparency of the taxation process and use of revenues, which will increase the acceptability of the tax by politicians and the general public.

## **1.5 Fiscal policies on SSBs and SSB consumption in Region of the Americas**

Evidence shows that implementing taxes on SSBs leads to reduced consumption of these products. Several countries are well on their way to implementing taxes on SSBs. Among PAHO (AMRO) countries, the United States of America, Mexico, Barbados, Dominica and other Latin countries have implemented a tax on specific SSBs. In Mexico, after the introduction of a 1 peso per litre excise tax on SSBs in January 2014, purchases of taxed beverages decreased 5.5 percent in 2014 and 9.7 percent in 2015, yielding an average reduction of 7.6 percent over two years.<sup>23</sup> Low-socioeconomic level households had the largest decreases in purchases of taxed beverages in both years. Over US\$ 2.6 billion was raised during the first two years of implementation; some of this revenue is beginning to be invested towards installing water fountains in schools across Mexico.<sup>24</sup>

## **1.6 Awareness and advocacy**

Challenges in implementing fiscal policies to promote healthy diets are many. Arguments against taxes are usually overstated and relate to the impact on jobs, low income households and tax avoidance.<sup>24</sup> Recent data from California and Illinois in the USA show that SSB taxes are not likely to lead overall job losses, in spite of a small decrease of jobs in the beverage sector.<sup>25</sup> This is attributed to consumers redirecting their purchases towards untaxed products, and the fact that the tax revenue will generate economic activity, thus stimulating growth in other non-beverage sectors. Evidence so far indicates that low-income populations have the largest health benefit from taxes because their pre-tax SSB consumption is high and post-tax reductions in consumption are relatively large.<sup>23</sup>

Awareness among policymakers and the population of the harmful effects of sugar, increases support for regulatory policies and counteracts efforts to oppose the development and



implementation of tax measures. The role of civil society and health professionals is critical, not only to counteract undue pressure from food and beverage companies, but also to monitor fiscal policies and ensure their appropriate implementation.

## 2. Situation analysis of nutrition and diet in Antigua and Barbuda

### 2.1 Demographic and health status

#### Demographic Characteristics

Antigua and Barbuda is situated at the north of the Leeward Islands chain in the Eastern Caribbean. The country is composed of three islands: Antigua, Barbuda, and Redonda, a rocky uninhabited island. Antigua, the larger of the two main islands, extends for 280 km<sup>2</sup>, while Barbuda has an area of 160 km<sup>2</sup>.

#### Socio-demographic indicators for Antigua and Barbuda

Total population (thousands)	87.9
Average annual deaths (thousands)	0.5
Life expectancy at birth (years)	Total: 75.5 (Male: 73.5, Female: 77.6)
Adult literacy rate (%)	99.0
Gross National Income US\$ per capita	12,130.0

Source: PAHO Cancer in the Americas. Country Profile 2013

Antigua and Barbuda gained independence from Great Britain on November 1, 1981. The country is governed as a parliamentary democracy; the Queen of England is the country's titular head. There is a bicameral legislature. Under the constitution, elections are scheduled every five years. The Barbuda Council was established by the Barbuda Local Government Act in 1976. The Council administers and regulates agriculture, forestry, public utilities, and roads and also raises and collects revenues. With respect to health, the Council is responsible for the administration of the country's public health, medical, and sanitary facilities, and health services.

Antigua and Barbuda is a member of the Organization of Eastern Caribbean States (OECS) and Caribbean Community (CARICOM) and cooperates with other OECS countries in areas such as economic policy, defense, pharmaceutical procurement, and international diplomacy. Antigua and Barbuda uses the Eastern Caribbean currency, with the exchange rate of US\$ 1.00 = EC\$ 2.70. The country has few natural resources; its economy is based on tourism, construction, manufacturing, and financial services.

#### Health Conditions and Trends

Between 2006 and 2010, Antigua and Barbuda made much progress in health. There has been a general reduction in both infant and maternal mortality, and life expectancy has increased. Moreover, the burden of communicable diseases decreased. The Medical Benefits Scheme (MBS) offered financial assistance and pharmaceutical supplies to qualified residents of the twin island Caribbean state of Antigua and Barbuda. Antigua and Barbuda is in a status of epidemiological transition, moving towards an increasing burden of NCDs.

## 2.2 Burden of NCDs

Antigua and Barbuda faces many challenges in the prevention and management of NCDs. Cardiovascular disease, cancer, chronic respiratory diseases and diabetes continue to be the leading cause of death in Antigua and Barbuda with cancer and heart disease being the top two leading causes.<sup>26</sup> Life-long treatments for NCDs which include dialysis, chemotherapy, medical and surgical interventions, etc. coupled with loss of productivity and disabilities increase the financial burden and continue to weigh heavily on the health and overall government budget.

### Mortality and morbidity due to NCDs in Antigua and Barbuda

Premature deaths from NCDs are a major concern in Antigua and Barbuda. In examining the reported deaths for 2010 alone, of the 490 deaths reported, there were a total of 83 deaths occurring before age 70 years as a result of chronic diseases – 40 males and 43 females. Cancers alone accounted for more than 50 percent of those deaths with a total of 44 deaths.<sup>27</sup> According to the Global Health Observatory data (2015), premature deaths from NCDs (<70 yrs.) account for 40% of all deaths in Antigua and Barbuda. Loss of life in productive ages due to premature deaths caused by NCDs negatively affects a country's socioeconomic and developmental status. It is also observed that while cancer and heart disease have been ranked as the top two leading causes of death, a significant number of deaths from cancer are noted in the younger age groups than that of heart disease.<sup>27</sup> The Mount St. John Medical Centre reported a total of 47 new cancer cases for that year. There were 48 amputations performed in 2010 as a result of diabetes, and there are 65 patients currently on dialysis, resulting from NCD complications. From 2008 to 2009, there were 359 reported new cases of hypertension and 17 reported new cases of diabetes.<sup>27</sup>

## 2.3 Unhealthy diets, physical inactivity and obesity in Antigua and Barbuda

### Risk Factors

Reduction of risk factors and strengthening protective factors are keys to reduce avoidable premature mortality and morbidity due to NCDs. Overweight and obesity, which are major risk factor attributed to NCDs, continue to be a challenge in the adult population. The main nutrition-related problems among adults and the elderly are obesity and NCDs. On average 63.1% of adults 20 years and over, who were screened in community clinics from 2009 to 2013 were classified as overweight or obese (data collected from primary health care in Antigua and Barbuda).

Prevalence (%) of overweight/obesity among adults in 2010 and 2014 in Antigua and Barbuda is indicated below.

Year	Female		Male	
	2010	2014	2010	2014
Overweight (BMI 25-29.9)	63.4	65.8	49.9	53.2
Obesity (BMI ≥30)	33.2	35.6	17.9	21.1

Source: WHO Global Health Observatory, 2015

Prevalence (%) of fruit and vegetable intake in adolescents and low physical activity in adolescents in Antigua and Barbuda are indicated below.



Prevalence (%) of:	Total	Females	Males
Fruit and vegetable intake in adolescents *	26.7	21.4	30.7
Low physical activity in adolescents **	68.2	73.0	63.5

Notes:

\*: % who eat ≤5 servings of fruit and vegetables per day;

\*\* : physically active less than 60 min per day in 5-7 of the last 7 days

Source: Pan American Health Organization. Country Profiles on Non-Communicable Diseases. Washington, D.C.: 2012

The WHO Global School Health Survey (GSHS) conducted in 2009 among 13-15-year-olds revealed that 89% of the students who reported smoking, tried their first cigarette before the age of 14 years.<sup>28</sup> It was also revealed that 86% of those same students also had their first drink of alcohol before age 14 years. The survey found that 45.1% of those interviewed had had at least one alcoholic drink in the 30 days preceding the survey, and that the majority (86.5%) had had their first drink before age 14. The GSHS showed that a 58.8% of students usually drank carbonated drinks one or more times per day during the past 30 days.

## 2.4 Mandate for enactment of fiscal policies in ATG

The Government of Antigua and Barbuda adopted their national targets for the Global Monitoring Framework (9 voluntary targets in 25 indicators) in their National Multi-sectoral NCD Action Plan (2015-2019). Their national policy and action plan is aligned with the WHO Global Action Plan (2013-2020), the Plan of Action for the Prevention and Control of Non-Communicable Diseases in the Americas (2013-2019)<sup>27</sup> and the Plan of Action for the Prevention of Obesity in Children and Adolescents.<sup>29</sup>

A specific objective in the Multi-sectoral NCD Action Plan of Antigua and Barbuda is the reduction of modifiable risk factors for NCDs and underlying social determinants through the creation of health-promoting environments. The Action Plan ensures a holistic approach embracing policy, legal and structural components necessary to address complex social determinants of NCDs and their risk factors. The strategic priority action area 3 on NCD risk factors and protective factors aims to promote the development of population-wide interventions to reduce exposure to key risk factors and strengthening healthy environment and choices.

Effective implementation of these actions will lead to reduction in consumption of SSBs; increased intake of fruits and vegetables; reduced consumption of saturated fat, salt and sugar; reduction in harmful use of alcohol; increase in physical activity; and, reduction in tobacco use and second hand exposure to tobacco smoke.

SSB taxation addresses a specific objective in the NCD action plan: To reduce modifiable risk factors for NCDs and underlying social determinants through the creation of health-promoting environments, with the target being a 20% relative reduction in overall mortality from cardiovascular diseases, cancers, diabetes, or chronic respiratory diseases by 2019. This is an opportune moment for Antigua and Barbuda to implement actions aimed at reducing unhealthy diets, such as fiscal policies on SSBs together with other recommended policy options (Best Buys) such as subsidies to promote healthy diets (particularly increasing consumption of fruit and vegetables), policy recommendations on the marketing of foods and non-alcoholic beverages to children at school premises and in the community, policies to reduce salt intake, creating safe environments for engaging in physical activity, and strengthening primary health care and promotion of breastfeeding and healthy eating for early prevention of childhood obesity.

### 3. Fiscal policies: taxation of sweetened beverages

#### 3.1 Tax design

##### 3.1.1 Tax type

A tax that is applied to a defined set of products may be used as a policy instrument to increase the relative prices of such products and, thereby, influence individual-level consumption. Taxes on consumption are considered indirect taxes which are passed on to the consumer and include excise taxes, value added taxes (VAT), general sales taxes (GST), and import tariffs.

Excise taxes are discriminatory taxes which are applied to specific products. Excise taxes are often used as “Pigouvian” taxes which are implemented with the intent of inducing a behaviour change to correct for an externality of overconsumption. Typical examples include excise taxes on tobacco and alcohol products, gasoline and motor vehicles, and products packaged in plastic bottles. Excise taxes are also used to tax luxury items as a discriminatory means to raise revenue. Excise taxes apply equally to domestically produced and imported products and therefore do not impact trade agreements.

Excise taxes may be applied as a specific tax or an ad valorem tax. A specific tax is applied as a specific amount per unit of the product whereas an ad valorem tax is applied as a percentage of the price (value) of the product. Specific excise taxes are preferred when the objective is to reduce consumption of specific products for a number of reasons. Importantly, since specific excise taxes are applied on a per unit basis rather than as a function of price, quantity discounts are still taxed. In particular, free refills of soda would not be subject to an ad valorem tax. Specific taxes also reduce incentives to switch to less expensive brands. However, it is important to keep in mind that excise taxes need to be periodically increased, otherwise they will be eroded by inflation. Antigua and Barbuda does not currently apply excise taxes to any beverage products.

Value added taxes (VAT) and Goods and Services taxes (GST) taxes generally apply broadly to all products and, therefore, are not considered as policy tools that would change relative prices of specific products and related consumption behaviour. Whereas a VAT tax is incorporated into the shelf price which is important for impacting behaviour decisions, a GST is usually applied only at the point of purchase and thus, is the least favourable tax instrument for impacting behaviours. The Antigua and Barbuda Sales Tax (ABST) is 15%. Any person/entity conducting taxable activity with annual gross standard-rated and zero-rated supplies exceeding EC\$300,000 is required to apply for registration for ABST.<sup>30</sup>

Import tariffs are used to raise revenue and can influence consumption and the balance of trade. Tariffs on products that do not have domestically produced substitutes may be effective in reducing overall consumption of such products. Tariffs on imported products that are also produced domestically will raise the relative price of the imported products and induce substitution to the domestically produced products. Currently in Antigua, SSBs are subject to: 1) up to a 15% import tariff rate; 2) a 10% Revenue Recovery Charge; 3) a National Solid Waste disposal levy (25 EC cents per container); and, 4) the 15% ABST. Note, however, SSB products produced in CARICOM member countries and then imported into Antigua are not subject to import duty under the CARICOM Single Market and Economy (CSME). Based on data provided from customs on net weight of sodas/aerated beverages imported into Antigua and Barbuda, 50%

were imported from Trinidad & Tobago and another 15% came from other CARICOM countries. 25% of imports were from the U.S., 6% from the U.K. and 4% from Canada; the remaining 5% were imported from more than 20 other various countries.

### **3.1.2 Tax base**

Another key consideration for policy makers is to define the tax base – that is, defining which products will be taxed. The appropriate tax base depends on the objective of the tax. The public health objective to reduce sugar intake suggests a tax on all SSBs including: all water based flavoured drinks (regular soda, regular energy drinks, regular isotonic drinks, sweetened fruit drinks), coffee, coffee substitutes, tea and herbal infusions (sweetened teas/coffees) and some milk and dairy based products (sweetened/flavoured milk). However, even though flavoured sweetened milk is a significant contributor to children’s SSB intake, it has been exempted from targeted beverage excise taxes to date. If any form of free sugars is considered a risk factor then the tax base would also include 100% fruit juice.

A broader tax base helps to minimize substitution across the targeted products. Under the public health objective to decrease simple sugar intake, ASBs would not be included in the tax base. Recent sweetened beverage taxes have not been consistent in their application to SSB versus ASBs beverages. For example, the targeted product excise taxes in Mexico, Hungary, and Berkeley and Oakland, CA, USA, apply to SSBs, whereas the tax in Philadelphia, PA, and Cook County, IL, USA, apply to both SSBs and ASBs. The impending beverage excise taxes for Albany, CA, Boulder, CO, San Francisco, CA, and Seattle, WA, USA, will apply to SSBs.

### **3.1.3 Tax rate**

The size of the tax has implications for the expected impact on individuals’ consumption. The price elasticity of demand is a common metric that measures the percentage change in quantity demanded that arises from a one percent change in price. The price elasticity of demand for SSBs is estimated to be in the range of -0.8 to -1.2.<sup>31, 32, 33</sup> Thus, based on an estimated price elasticity value of -1.0, an excise tax that raises prices by 20% is expected, on average, to reduce consumption of the taxed product by 20%.

The effective net change in prices for the taxed products depends on the type of tax that is implemented. Assuming full pass through of taxes to prices, an ad valorem excise tax of a given percentage will by definition increase prices by the given rate, although the base pre-tax price may change. The percentage change in price resulting from a specific excise tax depends on the container size and the baseline price of the taxed product.

Table 1 shows the mean estimated prices per litre of SSBs included by SSB categories of: soda, fruit drinks, energy drinks, sports drinks, and other SSBs. Data on prices were obtained from primary data collection using a food store audit instrument provided by Dr. Lisa Powell at the University of Illinois at Chicago (see Food Store Observation Form Attachment). Data were collected in June 2017 in 22 food stores in Antigua and the final analytic sample based on non-missing data consisted of 739 observations on SSB prices. Based on the full sample of N=739, the average price of an SSB was EC\$9.64 per litre, ranging from a low of EC\$6.17 for soda to a high of EC\$18.36 per litre for energy drinks. Of note, is that 50% of imported soda/aerated beverages come from Trinidad and Tobago and several of those products have, on average, lower prices: for

example: EC\$4.15 per litre for Solo; EC\$ 3.84 per litre for Cole Cold; and, EC\$4.58 per litre for Busta; although, Chubby has a higher than average price at EC\$6.51 per litre.

Table 1 shows in Example 1 that the imposition of a 20% ad valorem excise tax on SSBs would equate to an increase of EC\$1.93 per litre, on average, in the price of SSBs. By product category, prices would increase, on average, by EC\$1.23 per litre for soda, EC\$1.79 per litre for fruit drinks, EC\$3.67 per litre for energy drinks, EC\$2.20 per litre for sports drinks, and EC\$1.60 per litre for other SSBs. As shown in Example 2, a specific excise tax in the range of the penny per ounce which is often considered in the US would equate to approximately EC\$0.91 per litre and would translate into an approximate 9% in overall for SSBS and would range from a 15% price increase price for soda to only a 5% price increase, on average, for energy drinks. For some of the cheaper brand sodas noted above, the related price increase would range from 20-25%.

### 3.2 Evidence on the impact of SSB taxes on consumption and obesity outcomes

	Soda	Fruit Drinks	Energy Drinks	Sports Drinks	Other SSBS	Overall SSBS
Average <sup>‡</sup> price per L	6.17	8.95	18.36	10.99	8.02	9.65
Example 1: 20% ad valorem excise tax	20%	20%	20%	20%	20%	20%
Implied EC\$/L specific excise tax rate	\$1.23	\$1.79	\$3.67	\$2.20	\$1.60	\$1.93
Example 2: Specific excise tax equal to U.S. penny/ounce: EC\$0.91/L	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91
Implied ad valorem excise tax rate	15%	10%	5%	8%	11%	9%

Notes: EC\$=Eastern Caribbean Dollar. L=liter. ‡ Based on N=739 observations of SSB prices observed across 22 stores in Antigua in June 2017 using a store audit collection instrument (see Food Store Instrument in Attachment).

The existing literature suggests that the price elasticity of demand (% change in quantity demanded as a result of a 1% change in price for SSBs) is estimated to be in the range of -0.8 to -1.2. Thus, as noted above, based on a mid-range estimated price elasticity value of -1.0, an excise tax that raises prices by 20% is expected, on average, to reduce consumption of the taxed product by 20%. Evidence from the Mexico tax experience shows that following the implementation of a one peso/litre tax on SSBs (equivalent to approximately a 10% tax), average volume of taxed beverage purchases was 6% lower during the first year post tax and 12% lower by the end of the year; changes were greatest among low-income households, averaging 9.1% lower and reaching 17.4% lower by the end of the year.<sup>23, 34</sup> Follow up analyses that examined the sustained impact of

the tax in Mexico found an average net reduction of 7.6% in beverages purchased over the two-year study period.<sup>23</sup> Evidence on Berkeley's \$0.01/oz SSB tax, effective March 2015, found SSB consumption frequency among individuals living in low-income neighbourhoods four months post-tax fell 21% compared to a 4% increase in comparison cities and water consumption increased 63% compared to 19%.<sup>35</sup> Recent evidence shows that, one year post-tax SSB sales in Berkeley fell by 9.6% and sales of untaxed beverages rose by 3.5%.<sup>36</sup>

At present the impact of the recent introduction of SSB taxes on obesity outcomes has not been evaluated. Previous literature on associations between soda and SSB prices and body weight outcomes is mixed, with a few studies indicating significant associations between higher prices and lower body weight.<sup>32</sup> Several simulations models, however, suggest that reductions in consumption associated with an SSB tax result in lower obesity rates.<sup>37, 38</sup>

### **3.3 Potential tax revenue generation from a 20% SSB tax in Antigua and Barbuda**

We have estimated the potential revenue generated from the imposition of a 20% SSB excise tax. We have also assessed the expected net change in overall revenue based on predicted changes in demand and existing revenues sources from import duty, the National Solid Waste (NSW) levy, the Revenue Recovery Charge (RRC) and the Antigua and Barbuda Sales Tax (ABST). Based on import data made available from the Antigua and Barbuda Ministry of Customs we were able to classify imports of SSBs in the following categories: Soda, Fruit Drinks, Aerated Water, and Other SSBs. Additionally, we were able to classify flavouring powders and syrups for beverages. Sports drinks and energy drinks are not coded consistently with specific import harmonized system (HS) codes and, in part, may be included in a larger HS Code category of "Other Food Preparations" and thus those data are not discernible as a distinct category and may not be fully captured. We provide estimates based on three different price elasticity of demand assumptions: -0.8, -1.0 and -1.2. Further, in our analyses, it is assumed that the taxes are fully passed on to retail prices. Gross revenue estimates from the 20% tax are based on the cost, insurance and freight (CIF) value and hence will serve as a lower bound due to expected mark-up. Further, net revenue estimates are provided and these can be considered as a further lower bound because they assume that reductions in demand for SSBs will be substituted for with free tap water and not with other revenue generating beverages.

Table 2 shows that as estimated EC\$18.7 million (CIF value) of SSBs were imported into Antigua and Barbuda in 2016. Current revenue based on the CIF value from these imports is estimated to be EC\$8.3 million. A 20% SSB excise tax is estimated to reduce demand for SSBs in the range of 16% to 24% depending on the price elasticity of demand. Based on the mid-range price elasticity of demand of -1.0, such a tax is estimated to raise a total EC\$3.5 million in tax revenue of which EC\$1.3 million would be generated from soda imports. Additionally, based on data from the Ministry of Customs, the CIF value of flavouring powders and syrups for beverages represent approximately EC\$1.8 million, roughly 10% of the SSB import total shown in Table 2. Thus, an additional 10% in revenue, or approximately EC\$350,000.00 could be raised if these products were included in the tax base. Therefore, the total estimated SSB tax revenue based on the CIF value is approximately EC\$3.9 million.

Additional revenue would be generated based on mark-up. The revenue estimates presented in Table 2 do not account for any domestic SSB production. Data on domestic production were not available at the time of the writing of this report. Also, as shown in Table 2, under an assumed price elasticity of -1.2 (-0.8), there would be greater (lesser) reduction in SSB consumption and with that less (more) revenue would be generated.

It should be noted that that revenue from existing SSB sources would fall due to the estimated reduction in SSB consumption. However, monies not spent on SSBs would be spent on other non-SSB beverages and other goods and services which would roughly similarly be subject to tariffs and the ABST.

Finally, it is important to note that in addition to additional tax revenue generated by the imposition of a 20% SSB excise tax, the extent of reduction in SSB consumption following the introduction of the tax would also generate significant health care cost savings and increases in productivity.<sup>39</sup>

	<b>Soda</b>	<b>Aerated Beverages</b>	<b>Fruit Drinks</b>	<b>Other SSBS</b>	<b>Overall SSBS</b>
CIF Value (EC\$)	6,897,449	4,074,453	5,004,427	2,700,825	<b>18,677,153</b>
Import Duty (EC\$)	243,845	471,987	562,497	471,347	1,749,676
NSW Levy (EC\$)	789,414	454,638	234,006	229,247	1,707,304
RRC (EC\$)	631,276	299,990	453,220	263,659	1,648,145
ABST (EC\$)	1,199,736	593,831	908,165	510,272	3,212,004
Current Revenue (EC\$)	2,864,271	1,820,446	2,157,888	1,474,524	<b>8,317,129</b>
Revenue (EC\$) from 20% Tax, E=-0.8	1,332,359	840,181	974,556	571,438	3,718,534
Revenue (EC\$) from 20% Tax, E=-1.0	1,268,913	800,172	928,149	544,227	<b>3,541,461</b>
Revenue (EC\$) from 20% Tax, E=-1.2	1,205,467	760,164	881,741	517,016	3,364,388

Notes: EC\$=Eastern Caribbean Dollar. E=Price elasticity of demand. NSW=National Solid Waste. RRC=Revenue Recovery Charge. ABST=Antigua and Barbuda Sales Tax.



### **3.3.1 Earmarking of tax revenue in Antigua and Barbuda**

Earmarking tax revenue for specific government programs to prevent obesity is an important aspect of fiscal policies to maximize public health benefits and to help garner public support for the tax. Earmarking specifically for nutrition and physical activity-related programs will complement the intended health impact of the tax. Examples of potential programs and policies that could be supported by the tax revenue include:

- Subsidizing drinking water infrastructure in schools (including provision of reusable water bottles for school children);
- Subsidizing fruit and vegetable snacks in schools;
- Promoting the implementation of school gardens as a learning tool and to improve access to fruits and vegetables;
- Subsidizing local agriculture;
- Implementing an integrated health communication campaign to promote the importance of reducing SSB consumption;
- Providing sponsorship for youth sports, including government-supported interschool competitions and sports events; and,
- Providing funding for increased activity spaces.

## **3.4 Important issues for consideration related to fiscal SSB tax policy**

### **3.4.1 Tax pass-through**

Excise taxes are generally levied upon the manufacturer or distributor of the taxed products, whereas sales taxes are levied directly by retailers on the consumer. Thus, the impact of an excise tax depends on the extent to which the tax is passed through in the form of higher retail prices of the taxed products. In competitive markets, taxes are expected to be fully passed on and, in which case a 20% excise tax on SSBs would be expected to raise the retail prices of SSBs by 20%. However, taxes may also be over-shifted (where prices increase more than the tax) or under-shifted (where prices increase to a less than the tax) depending on the market conditions and the price elasticity of demand. Understanding the extent of tax pass-through for a given tax is important for understanding the observed effects of the tax since demand will not fall as expected unless the tax is passed on through higher retail prices.

Studies on beverage excise taxes have found varying pass-through rates, depending on the beverage type, brand, and size of the tax. An analysis of beverage taxes in Denmark suggested over-shifting of excise taxes and that the pass-through rate was smaller when the size of the tax was larger.<sup>40</sup> An evaluation of the effects of the French soda tax imposed in 2012 using data on drive-through purchases by consumers from retail outlets found that, six months after the tax took effect, it had been fully passed through to soda prices.<sup>41</sup> Evidence from Mexico also showed full pass-through to SSB prices at one-year post-tax implementation; though some differences were found based on product type and package size.<sup>42</sup> Two early studies on the Berkeley tax showed less than 50% pass-through of SSB taxes to SSB prices at 3 months post-tax implementation and for certain brands at 5 months post-tax implementation.<sup>43, 44</sup> Recent estimates for Berkeley reveal differential rates of pass-through based on store type (e.g., full pass-through was observed in chain supermarkets).<sup>36</sup>

### **3.4.2 Regressivity**

Consumption taxes are regressive and so are not an equitable policy tool for raising general tax revenue. However, targeted consumption taxes such as SSB and tobacco taxes are intended to change behaviour to yield a health benefit. Of key importance is that behaviour change and related health benefits are likely to be progressive given that low-income households tend to be more responsive to changes in prices/taxes. Evidence reveals greater SSB price sensitivity for low-income populations;<sup>45</sup> a larger impact of the tax in Mexico among low-income individuals; and, a large impact of the Berkeley tax on SSB consumption among residents in low-income neighbourhoods.<sup>34, 35</sup>

### **3.4.3 Job losses**

Both the beverage industry and local businesses raise concerns about potential job losses that may result from the introduction of a beverage tax. However, it is important to keep in mind that money not spent on the taxed beverages will be spent on other non-taxed beverages and other products. That is, while there may be lower demand for the taxed beverages and related job loss, as consumers reallocate their spending to non-taxed beverages and other goods and services new jobs will be created in the economy. Further, many beverage companies produce a variety of beverages including those that will and will not be subject to a given tax and hence substitution across beverages will serve to offset part of the potential impact on overall demand for beverages and related industry jobs. Finally, new jobs will be created as a result of the economic activity that is generated from the spending from the tax revenue. A recent study of the impact of SSB taxes on employment for California and Illinois in the US showed no net reduction in jobs associated with an SSB tax.<sup>25</sup> Given the absence of SSB production in Antigua and Barbuda this issue is of lesser concern. Nonetheless, local food store owners may have concerns over reduced sales with potential job loss implications. Substitution to non-SSBs or other grocery items would mitigate such concerns.

## **3.5 Monitoring impact of an SSB taxes in Antigua and Barbuda**

In order to monitor the impact of a new SSB tax in Antigua and Barbuda, it is important to systematically collect data on SSB prices and volume of SSB imports and any domestic production. Current import data only provide CIF values and not volume. It would be important to implement systems to collect data monthly on volume by SSB type. To assess pass-through price data should be collected using the food store observation forms at baseline and at six and twelve months post-tax implementation at a minimum from the same stores used for the baseline price data collection.

## **4. Recommendations for fiscal and other policies in Antigua and Barbuda**

The following recommendations are made related to SSB fiscal policies:

- Implement a 20% excise tax (or “health levy”) on SSBs.
- Define a broad tax base to include all forms of SSBs (e.g., soda, energy drinks, sports drinks, fruit drinks, sweetened teas/coffees, sweetened waters, beverage powdered/syrups).
- Apply 20% tax on all imported and domestically produced SSBs.

- Earmark tax revenue for public well-being programs, with particular emphasis on nutrition and physical activity-related policies.
- Carry out a public awareness and education campaign on sensitizing communities regarding the SSB tax and its objectives to both enhance its acceptance and complement its intended impact to reduce sugary drink consumption and improve public health.

Complement the fiscal policies with additional policies/programs as follows:

- Ban SSBs in schools.
- Develop regulations related to the marketing of SSBs in and around schools.
- Subsidize drinking water infrastructure in schools and provide reusable water bottles to school children.
- Subsidize fruit and vegetable snacks in schools (with local procurement);
- Subsidize local agriculture.
- Promote the implementation of school gardens as a learning tool and to improve access to fruits and vegetables.
- Promote government-supported interschool competitions and sports events.
- Provide government sponsorship for youth sports.
- Provide funding for increased activity spaces.
- Implement an integrated health communication campaign to promote the importance of reducing SSB consumption.

## 5. Additional policy design options

In May 2013 the World Health Assembly endorsed WHO’s Global Action Plan for the Prevention and Control of NCDs 2013–2020.<sup>46</sup> The global action plan has six objectives whose implementation at country level will support the attainment of the nine NCD targets by 2025, as well as facilitate the realization of Sustainable Development Goal 3 –Good Health and Well-being. Part of this plan comprises a menu of policy options and cost-effective and recommended interventions (“Appendix 3”) to assist Member States, as appropriate for their national context, in implementing measures towards achieving the Sustainable Development Goals (SDG) Target 3.4.

### **‘Best Buys’ and other recommended interventions**

Since the global action plan was endorsed in 2013, Appendix 3 has been updated to take into consideration the emergence of new evidence of cost-effectiveness and the issuance of new WHO recommendations that show evidence of effective interventions. The updated Appendix (which reflects changes to objectives 3 and 4 only) was endorsed in May 2017 by the Seventieth World Health Assembly. Renamed ‘*Best buys*’ and other recommended interventions, this updated Appendix 3 comprises a total of 88 interventions, including overarching/enabling policy actions, the most cost effective interventions, and other recommended interventions.

The “Best Buys” and other recommended interventions are updated to address the four key risk factors for NCDs (tobacco, harmful use of alcohol, unhealthy diet and physical inactivity) and four disease areas (cardiovascular disease, diabetes, cancer and chronic respiratory disease).<sup>47</sup>

When considering interventions for the prevention and control of NCDs, emphasis should be given to both economic and non-economic criteria, as both will affect the implementation and impact of interventions. Non-economic implementation considerations such as health impact, acceptability, sustainability, scalability, equity, ethics, multisectoral actions, training needs, suitability of existing facilities and monitoring are essential elements in preparing to achieve the targets of the global action plan and should be considered before the decision to implement the following recommendations shown in the tables.

Consideration for selection of interventions could include (i) which interventions will bring the highest return on investment in national responses to the overall implementation of the 2030 Agenda for Sustainable Development; (ii) priority government sectors that need to be engaged (in particular, health, trade, commerce and finance) and (iii) concrete coordinated sectoral commitments based on co-benefits for inclusion in national SDG responses.

For prevention and control of childhood obesity, the following policy options and cost-effective interventions are recommended for Antigua and Barbuda to adopt based on national context and priority.

#### Guide to interpreting the tables:

- Overarching/enabling policy interventions are shown by the light green marker.
- Out of the 88 interventions, there are a total of 16 ‘best buys’ – those considered the most cost-effective and feasible for implementation. These are interventions where a WHO Choice analysis found an average cost-effectiveness ratio of  $\leq 100$  I\$1 per DALY averted in low- and lower middle-income countries.<sup>48</sup> They are shown by the dark green marker in the table.
- Other effective interventions for which the WHO Choice analysis produced cost effectiveness of above this threshold of I\$  $\leq 100$  per DALY averted are shown by the forest green marker.
- Other recommended interventions that have been shown to be effective but for which no cost-effectiveness analysis was conducted are shown by the warm green marker.

	Overarching/enabling policy interventions
	‘Best buys’: Effective interventions with cost effectiveness analysis $\leq$ I\$ 100 per DALY averted in LMICs
	Effective interventions with cost effectiveness analysis $>$ I\$ 100 per DALY averted in LMICs
	‘Other recommended interventions from WHO guidance (cost effective analysis not available)

LMICs: low middle income countries

DALY: Disability-Adjusted Life Year (One DALY can be thought of as one lost year of "healthy" life.)

**Objective: Reducing modifiable risk factors for noncommunicable diseases and underlying social determinants through creation of health-promoting environments**

**Unhealthy Diet**

**Overarching/enabling policy interventions**

- Implement the WHO global strategy on diet, physical activity and health
- Implement the WHO recommendations on the marketing of foods and non-alcoholic beverages to children

**“Best-Buys” and other Recommended Interventions:**

<p>“Best Buys”: Effective interventions with cost effectiveness analysis (CEA) ≤ I\$100 per DALY averted in L MICs</p>	<ul style="list-style-type: none"> <li>• Reduce salt intake through the reformulation of food products to contain less salt and the setting of target levels for the amount of salt in foods and meals<sup>a</sup></li> <li>• Reduce salt intake through the establishment of a supportive environment in public institutions such as hospitals, schools, workplaces and nursing homes, to enable lower sodium options to be provided<sup>a</sup></li> <li>• Reduce salt intake through a behaviour change communication and mass media campaign</li> <li>• Reduce salt intake through the implementation of front-of-pack labelling<sup>b</sup></li> </ul>
<p>Effective interventions with (CEA) &gt; I\$100 per DALY averted in LMICs</p>	<ul style="list-style-type: none"> <li>• Eliminate industrial trans-fats through the development of legislation to ban their use in the food chain<sup>b</sup></li> <li>• Reduce sugar consumption through effective taxation on sugar-sweetened beverages</li> </ul>
<p>Other recommended interventions from WHO guidance (CEA not available)</p>	<ul style="list-style-type: none"> <li>• Promote and support exclusive breastfeeding for the first 6 months of life, including promotion of breastfeeding</li> <li>• Implement subsidies to increase the intake of fruits and vegetables</li> <li>• Replace trans-fats and saturated fats with unsaturated fats through reformulation, labelling, fiscal policies or agricultural policies</li> <li>• Limiting portion and package size to reduce energy intake and the risk of overweight/obesity</li> <li>• Implement nutrition education and counselling in different settings (for example, in preschools, schools, workplaces and hospitals) to increase the intake of fruits and vegetables</li> <li>• Implement nutrition labelling to reduce total energy intake (kcal), sugars, sodium and fats</li> <li>• Implement mass media campaign on healthy diets, including social marketing to reduce the intake of total fat, saturated fats, sugars and salt, and promote the intake of fruits and vegetables</li> </ul>

An up-to-date list of WHO and resources for each objective can be founded at <http://www.who.int>

Non-financial considerations

<sup>a</sup> Requires multisectoral actions with relevant ministries and support by civil society

<sup>b</sup> Regulatory capacity along with multisectoral action is needed

## Physical Activity

### Overarching/enabling policy interventions

- Implement the WHO Global Strategy on Diet, Physical Activity and Health

### “Best-Buys” and other Recommended Interventions:

“Best Buys”: Effective interventions with cost effectiveness analysis (CEA) $\leq$ I\$100 per DALY averted in L MICs	<ul style="list-style-type: none"><li>• Implement community wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community based education, motivational and environmental programs aimed at supporting behavioural change of physical activity levels</li></ul>
Effective interventions with (CEA) $>$ I\$100 per DALY averted in LMICs	<ul style="list-style-type: none"><li>• Provide physical activity counselling and referral as part of routine primary health care services through the use of a brief intervention<sup>a</sup></li></ul>
Other recommended interventions from WHO guidance (CEA not available)	<ul style="list-style-type: none"><li>• Ensure that macro-level urban design incorporates the core elements of residential density, connected street networks that include sidewalks, easy access to a diversity of destinations and access to public transport<sup>b</sup></li><li>• Implement whole-of-school programme that includes quality physical education, availability of adequate facilities and programs to support physical activity for all children</li><li>• Provide convenient and safe access to quality public open space and adequate infrastructure to support walking and cycling</li><li>• Implement multi-component workplace physical activity programmes</li><li>• Promotion of physical activity through organized sport groups and clubs, programmes and events</li></ul>

An up-to-date list of WHO tools and resources for each objective can be found at <http://www.who.int/nmh/ncd-tools/en>

#### Non-financial considerations

<sup>a</sup> Requires sufficient, trained capacity in primary care

<sup>b</sup> Requires involvement and capacity of other sectors apart from health

## 6. List of attachments

- Annex 1
- Food Store Observation Form
- Food Store Observation Form: Instructions for Data Collection



## 7. References

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## **Annex 1**

A series of face-to-face consultation meetings took place In March and July 2017 with various key Ministries and stakeholders.

### **Government**

Ministry of Finance & Corporate Governance

Ministry of Trade, Commerce, Industry, Sports, Culture & National Festival

Ministry of Education, Science & Technology

Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs

Ministry of Health & Environment

### **Prime Minister and Cabinet Members**

Prime Minister Browne and various Cabinet Ministers

### **Non-Governmental Organizations, Faith-based Organizations, Civil Society, Private Sectors, Academic Institute and Principles of Primary School, National Health and Wellness Commission (members representing various sectors)**

### **International Organizations**

Dr Tomo Kanda, Advisor on Chronic Disease, Pan American Health Organization/World Health Organization

Professor Lisa M. Powell, consultant for PAHO/WHO, University of Illinois at Chicago

**FOOD STORE OBSERVATION FORM**  
**Beverage Prices - Antigua and Barbuda - Baseline June 2017**

BUSINESS NAME:	
ADDRESS:	BUSINESS ID: <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>
DATE <input style="width: 20px;" type="text"/> - <input style="width: 20px;" type="text"/> -2017 STAFF <input style="width: 20px;" type="text"/>	
START TIME <input style="width: 20px;" type="text"/> : <input style="width: 20px;" type="text"/> am/pm END TIME <input style="width: 20px;" type="text"/> : <input style="width: 20px;" type="text"/> am/pm	

**A. General Store Characteristics**

A1. TYPE OF STORE	NO	YES
Supermarket <span style="float: right;">1</span>	0	1
Grocery <span style="float: right;">2</span>	0	1
Convenience Store <span style="float: right;">3</span>	0	1
Other: _____ <span style="float: right;">4</span>	<input style="width: 20px;" type="text"/>	

**B. Fruit Drinks**

B1. Brand	B2. Package Size	B3. Regular Price <small>77.77=Not Shown 99.99=Product Not Available</small>	B4. Sale <small>If B4=NO, Skip B5</small>		D5. Sale Price <small>77.77=Not Shown</small>
			NO	YES	
a. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
b. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
c. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
d. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
e. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
f. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
g. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
h. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
i. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
j. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
k. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>
l. _____	_____	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>	0	1	\$ <input style="width: 20px;" type="text"/> . <input style="width: 20px;" type="text"/>

## C. Soda

C1. Brand	C2. Package Size	C3. Regular Price <small>77.77=Not Shown 99.99=Product Not Available</small>	C4. Sale <small>If C4=NO, Skip C5</small>		C5. Sale Price <small>77.77=Not Shown</small>
			NO	YES	
a. Coca Cola	12 oz can	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
b. <u>Diet</u> Coke	12 oz can	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
c. Coke <u>Zero</u>	12 oz can	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
d. Coca Cola	20 oz bottle	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
e. Coca Cola	2 L bottle	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
f. Coca Cola	Case of 12 - 12 oz cans	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
g. Pepsi	12 oz can	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
h. <u>Diet</u> Pepsi	12 oz can	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
i. Pepsi	20 oz bottle	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
j. Pepsi	2 L bottle	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
k. Pepsi	Case of 12 - 12 oz cans	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
l. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
m. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
n. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
o. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
p. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
q. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
r. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
s. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
t. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>



## D. Energy Drinks

D1. Brand	D2. Package Size	D3. Regular Price <small>77.77=Not Shown 99.99=Product Not Available</small>	D4. Sale <small>If D4=NO, Skip D5</small>		D5. Sale Price <small>77.77=Not Shown</small>
			NO	YES	
a. Red Bull	8.4 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
b. Red Bull	12 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
c. Red Bull	16 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
d. Monster	16 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
e. Monster	24 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
f. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
g. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
h. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
i. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
j. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>

## E. Sports Drinks

E1. Brand	E2. Package Size	E3. Regular Price <small>77.77=Not Shown 99.99=Product Not Available</small>	E4. Sale <small>If E4=NO, Skip D5</small>		E5. Sale Price <small>77.77=Not Shown</small>
			NO	YES	
a. Gatorade	20 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
b. Gatorade	28 oz OR 32 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
c. Powerade	20 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
d. Powerade	28 oz OR 32 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
e. Vitaminwater	20 oz	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
f. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
g. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
h. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
i. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
j. _____	_____	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	0	1	\$ <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>

## F. Sweetened Iced Tea and Coffee

F1. Brand	F2. Package Size	F3. Regular Price <small>77.77=Not Shown 99.99=Product Not Available</small>	F4. Sale <small>If F4=NO, Skip F5</small>		F5. Sale Price <small>77.77=Not Shown</small>
			NO	YES	
a. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
b. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
c. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
d. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
e. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
f. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
g. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
h. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
i. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
j. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]

## G. Additional/Other Sweetened Drinks

G1. Brand	G2. Package Size	G3. Regular Price <small>77.77=Not Shown 99.99=Product Not Available</small>	G4. Sale <small>If G4=NO, Skip G5</small>		G5. Sale Price <small>77.77=Not Shown</small>
			NO	YES	
a. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
b. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
c. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
d. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
e. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
f. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
g. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
h. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
i. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]
j. _____	_____	\$ [ ] [ ] . [ ] [ ]	0	1	\$ [ ] [ ] . [ ] [ ]

# FOOD STORE OBSERVATION FORM: Instructions for Data Collection

## Beverage Prices ▪ Antigua and Barbuda ▪ Baseline June 2017

### 1. Business ID:

Write in business name and address. Assign a unique 2-digit business ID to each store.

### 2. Section A: General Store Characteristics

**A1: Type of store** Circle the type of store based on whether it is a **supermarket** (larger store with full line of foods including meat and bakery section), **small grocery store**, **convenience store**, or **other** (such as a small general store or discount store).

**A2: Does the store have parking on-site?** On-site parking can include a lot or a parking structure/deck associated with the store. It does not matter if the parking is "paid" or "free." It does not matter if parking is shared with other neighboring businesses such as in a strip mall this should be included.

**A3. Does the store sell gasoline?** Record whether the store sells gasoline on the premises. If the option to purchase gasoline is available, **circle "1" for yes**. If not, **circle "0" for no**. You will still code "1" even if the store name varies from that of the gas station.

**A4. Is there fresh meat available?** Record whether the store sells any fresh meat, including fresh beef, pork, chicken, turkey, duck, lamb, etc. Pre-packaged and ground meats like ground beef or turkey should be included. Do not count frozen meats or cured/processed meats like hot dogs, ham, bacon, bologna, or other cold cuts. Do not count fresh or frozen fish/seafood. If fresh meat is available **circle "1" for yes**. If not, **circle "0" for no**.

**A5. Number of cash registers.** Count the number of cash registers that are at the front area of the store, which is located near the entrance.

### 3. Sections B through F: Beverage Pricing Information

This survey instrument is intended for beverage pricing data collection across different types and sizes of sugary drinks. For each section of drinks, data will be recorded for the following measures:

**1. Brand:** For the Soda, Energy Drinks, and Sports Drinks sections, please record data for the specified brands and then look for additional brands that are available in the food store. Please start by recording data for non-specified brands that comprise the most shelf space and continue until the form is full. Note that except for the 3 pre-specified zero calorie sodas, all other pre-specified brands and brands that discovered in the stores should be for calorically sweetened drinks. Do not include other diet drinks or 100% fruit juices.

**2. Package Size:** For the pre-specified brands, please look for each of the specified sizes. If those brands/sizes are not available then record **"\$99.99"** in the section for regular price and leave the rest of the row blank. For the brands that you find in the store, please record the package size in oz, ml, or L. For multi-packs please indicate the number of units and the size of each unit (i.e., 6 pack of 16 oz cans). Please record data for individual sizes and larger (i.e., 1 and 2L and multi-packs) sizes when available.

**3. Regular Price:** Record the regular listed price for the item in this column. Be sure to record the price as at least a 3-digit number and so include a zero in front of an item that is less than one dollar (e.g., "\$0.99"). If the regular price is not shown and you cannot ask for it, observers should record the current price as **"\$77.77"** (i.e., not shown). If the item is on sale and the regular price is not shown do not record the sales price in this column. If there are multiple prices listed for the same item at the time of your observation, only record the price for the individual unit and, if more than one price is given for an individual unit, record the lowest price. If a manufacturer's suggested retail price is printed on the package (e.g., \$0.99 on the can or bottle) record that as the regular price, unless there is a price tag or shelf tag that lists an alternate (less expensive) price given for that item. Reminder: never record the sale price in the regular price column.

**4. Sale:** Circle whether the product is on sale or not (i.e., no or yes). A product being “on sale” means it offers a temporary price cut or discount; it does not have to list an end date of the promotional price. The store shelf tag or price tag may say “sale,” “special,” “save,” “price cut,” “deal,” “free,” “buy one get one free,” “reduced price,” etc. or may be in a different color than the rest of the shelf tags throughout the store indicating that the item is on sale. If the brand/size of an item is on sale in the store, **circle “1”**. If not, **circle “0”** and skip the rest of the row.

**5. Sale Price:** If an item is listed as “on sale” or has a promotional price, review the signage, shelf tag, or advertisement promoting the sale. For reduced priced items record the sale price. If the sale is a reduced price per quantity such 2/\$3 then record this as a fraction in the area where you would record the reduced price and the data entry team will calculate the sale price. If the sale is buy one get one free then write in “BOGO.” If the sale price is not shown, **record “\$77.77”** (not shown).

**Examples of pre-specified beverage brands/sizes:**

