

# Taxes on Sugar-sweetened Beverages as a Public Health Strategy: The Experience of Mexico



Pan American  
Health  
Organization



World Health  
Organization

REGIONAL OFFICE FOR THE Americas



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Pan American Health Organization  
Mexico Representative Office  
Mexico D. F., Mexico | 2015

Also published in Spanish (2015):  
Experiencia de México en el establecimiento de impuestos a las bebidas  
azucaradas como estrategia de salud pública  
ISBN 978-92-75-31871-3

**PAHO HQ Library Cataloguing-in-Publication Data**

\*\*\*\*\*

Pan American Health Organization.

Taxes on Sugar-sweetened Beverages as a Public Health Strategy: The Experience of Mexico. Mexico DF, Mexico : PAHO, 2015.

1. Dietary Sucrose. 2. Chronic Disease. 3. Taxes. 4. Diabetes. 5. Obesity. 6. Public Policies.  
7. Mexico. I. Title.

ISBN 978-92-75-11871-9

(NLM Classification: QU83)

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# Acknowledgements

We thank the institutions that played an active role in the preparation, dissemination, discussion, and approval of the law. Our special thanks to those who helped write this report on the process of creation of a tax on sugar-sweetened beverages, and to those who contributed valuable information to make this publication possible:

- *Alianza por la Salud Alimentaria (Partnership for Dietary Health)*: El Poder del Consumidor; Asociación Nacional de Empresas Comercializadoras de Productores del Campo (ANEC); Centro de Capacitación en Ecología y Salud para Campesinos y Defensoría del Derecho a la Salud (CEESC-DDS); Centro de Derechos Humanos Fray Francisco de Vitoria; Centro de Orientación Alimentaria (COA NUTRICIÓN); Coalición de Organizaciones Mexicanas por el Derecho al Agua; Consejo Nacional de Organizaciones Campesinas; ContraPESO; El Barzón; FAN México (Red de acción por el agua, Mexico); Foodfirst Information and Action Network (FIAN Mexico); Food and Water Watch; InterAmerican Heart Foundation; Fundación Mídete; Greenpeace; Grupo de Estudios Ambientales; The Hunger Project México; International Baby Food Action Network (IBFAN Mexico); Oxfam Mexico; Proyecto Planeta Azul; REDIM; Fundación Semillas de Vida; Sin Maíz no Hay País; Slow Food; Unión de Productores y Comerciantes de Hortalizas de la Central de Abasto de la Ciudad de México.
- *Bloomberg Philanthropies*.
- *Chamber of Deputies of the United Mexican States*.
- *Coalición México Salud-Hable*: Alianza contra el Tabaco, A.C.; ALIENTO; American Cancer Society; AMPAHS; Aquí nadie se rinde A.C.; ASBIS Mujer y Familia A.C.; Asociación Gerardo Alfaro A.C.; Asociación Linfática de México, A.C.; Asociación Mexicana de Diabetes; Asociación Mexicana de Leucemia y GIST; Asociación Mexicana de Lucha contra el Cáncer, A.C.; Asociación Renal Venados, A.C.; Círculos para el Desarrollo de la Promoción a la Salud, A.C.; ContraPESO; Fundación CIMAB; Fundación de Mano Amiga a Mano Aniciosa; InterAmerican Heart Foundation; Fundación Mídete; Incide; Red contra el Cáncer; Red Mundial de Suicidólogos; Salvati; The Hunger Project México; Voz Pro Salud Mental.

- United Nations Children’s Fund (UNICEF).
- United Nations Food and Agriculture Organization (FAO).
- United Nations Educational, Scientific and Cultural Organization (UNESCO).
- World Health Organization (WHO).
- Pan American Health Organization (PAHO).
- *Plataforma Estratégica contra el Sobrepeso y la Obesidad – ContraPESO (Strategic Platform against Overweight and Obesity):* Alimento para Todos; Amistad, Desarrollo y Cooperación; AnimaNaturalis; Asociación ALE; Asociación Mexicana de la Cruz Blanca Neutral; Asociación de Salud y Bienestar Social; Asociación Mexicana de Diabetes; Asociación Mexicana de Familiares y Pacientes con Artritis Reumatoide; Asociación Mexicana de Fibrosis Quística; Asociación Mexicana de Leucemia y GIST; Asociación Mexicana de Lucha contra el Cáncer; Asociación Nacional del Síndrome de Williams; Asociación Renal Venados; Clínica mexicana de Autismo y Alteraciones del Desarrollo; Colegio Mexicano de Bariatría; Comité de Derechos Humanos de Ajusco; Earth, Food and Fire; Federación Mexicana de Enfermos y Trasplantados Renales; Fundación CIMAB; Fundación Mexicana del Riñón; Fundación Mídete; Grupo de Recuperación Total (RETO); Huellas del Futuro; Instituto de Políticas para el Transporte y el Desarrollo; Junior League Mexico City; Nuestras Realidades; Organismo de Nutrición Infantil; Organización Smiles; Plataforma Integral de Desarrollo Sustentable; Red Contra el Cáncer; Red Mundial de Suicidólogos; Red por la Salud (which includes more than 10 health organizations); Respirando con Valor; Mexican Society of Public Health; The Hunger Project México.
- *Presidency of the Republic.*
- *Ministry of Finance and Public Credit (SHCP):* Department of Income; Tax Revenue Policy Unit.
- *Ministry of Health:* General Directorate for Health Promotion (DGPS); “Salvador Zubirán” National Institute of Medical Sciences and Nutrition; National Institute of Public Health (INSP).
- *Senate of the United Mexican States.*

# Prefacio

The world is facing a massive pandemic of chronic noncommunicable diseases (NCD), which, according to our Organization's estimates, are the leading cause of morbidity and mortality, accounting for 63% of all deaths.<sup>1</sup> Data indicate that 85% of deaths associated with CNCDs occur in low- or middle-income countries.<sup>2</sup> The Region of the Americas is no exception; these diseases account for more than 75% of all deaths in the Region, more than one-third of which (37%) are considered premature, i.e., those occurring before age 70 years.<sup>3</sup> Although more than a dozen chronic diseases are grouped under the umbrella denomination of CNCDs, those which affect the population the most are cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases. These illnesses share four risk factors: unhealthy diet (including intake of energy-dense beverages), sedentary lifestyle, tobacco use, and harmful use of alcohol.

The rapid rise of excess weight during the last 30 years has been mainly due to the dizzying changes that have occurred in our environment and are closely associated with advances in technology, which, despite providing us with many comforts, have also made our lives more sedentary. Furthermore, this situation is compounded by easy access to processed foods that contain large amounts of fat, salt, and sugar, as well as heavy intake of drinks with added sugar, or sugar-sweetened beverages.

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- 1 World Health Organization. Health Topics. Noncommunicable Diseases. Geneva: WHO; 2014. Available at: [http://www.who.int/topics/chronic\\_diseases/es/](http://www.who.int/topics/chronic_diseases/es/) Retrieved December 8, 2014.
  - 2 World Health Organization. Global Status Report on Noncommunicable Diseases, 2010. Executive Summary. Geneva: WHO; 2010. Available at: [http://www.who.int/nmh/publications/ncd\\_report\\_summary\\_en.pdf](http://www.who.int/nmh/publications/ncd_report_summary_en.pdf) Retrieved December 8, 2014.
  - 3 PAHO/WHO. 28th Pan American Sanitary Conference. 64th Session of the Regional Committee. Resolution CSP28.R13 Strategy for the Prevention and Control of Noncommunicable Diseases. Washington, D.C.: PAHO; 2012. Available at: [http://www.paho.org/hq/index.php?option=com\\_docman&task=doc\\_download&gid=18930](http://www.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=18930) Retrieved December 8, 2014.

The World Health Organization (WHO) and the Pan American Health Organization (PAHO) have warned that excess weight is due to inadequate diet and insufficient physical activity, and regard it as a public health problem of international importance. The growth of this phenomenon and its interrelatedness with various illnesses have made it a challenge for health systems throughout the world, from prevention to the delivery of medical services.

PAHO/WHO and its Member States have expressed concern that intake of sugar-sweetened beverages is harmful to health. According to the scientific evidence, excessive intake of sugar in any of its forms—sucrose, fructose, glucose, etc.—provides only empty calories that contribute to weight gain and hormonal imbalances. Furthermore, increased consumption of sugar-sweetened beverages, including soft drinks, affects all ages and ethnic groups and is related to the rising prevalence of insulin resistance, which causes type 2 diabetes mellitus (T2DM) and other illnesses.

Childhood is an essential period for the development of healthy habits and the prevention of overweight. The evidence shows that one's environment is critical: scarce opportunities for physical activity, limited access to drinking water, and the possibility of acquiring unhealthy foods and beverages at very low prices are prescriptions for excess weight. Furthermore, overweight children have a high likelihood of suffering from this disorder throughout their lives.

The costly economic and social consequences of overweight and obesity are made manifest in the treatment of cardiovascular diseases, cancer, diabetes, disability, chronic kidney disease, musculoskeletal conditions, and psychosocial problems, among others. In addition, excess weight can lead to a less productive, poorer, and shorter life of increased medical expenditures and lower quality.

At the international level, during the last 15 years, the CNCD pandemic and its risk factors have been an important subject for the WHO and PAHO Governing Bodies. In 2004, the 193 WHO Member States approved the Global Strategy on Diet, Physical Activity, and Health, which contained an important new strategy: the use of fiscal policies as public health tools. Notably, in 2011, the United Nations adopted by consensus the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases, which also included recommendations on fiscal policies. During the 2013 World Health Assembly, the Member States approved the Global Action Plan for the Prevention and Control of Noncommunicable Diseases, which proposed that fiscal policies should incorporate taxes or subsidies—adapted to each country's national context—that promote incentives to establish healthy environments and improve availability of healthier foods. The Plan of Action for the Prevention of Obesity in Children and Adolescents, adopted by the PAHO Directing Council in 2014, contains the same recommendation.

Mexico is the world's leading consumer of soft drinks at 163 liters per capita per year. A study conducted by the United Nations Food and Agriculture Organization (FAO) in July 2013 revealed that Mexico has the highest adult obesity rate among the member countries of the Organization for Economic Cooperation and Development (OECD). In view of these figures and given the severity of the issue, PAHO/WHO recognizes the Mexican State's concern and

political will to tackle the issue of obesity in the country, as reflected in its National Strategy for the Prevention and Control of Overweight, Obesity, and Diabetes, launched by President Enrique Peña Nieto in October 2013. One regulatory measure contained in this strategy is the establishment of a Special Tax on Production and Services to be levied on sugar-sweetened beverages as a means of reducing demand. This achievement is due to coordinated and complementary efforts carried out among the Ministry of Health, the Ministry of Finance and Public Credit (SHCP), and the legislative branch with a view to protecting public health.

Mexico is facing a historic opportunity, and the world is eager to hear about the Mexican experience in the prevention and control of obesity, especially regarding implementation of these fiscal policies and their impact. Mexico thus has a very important role to play as an example in this struggle, and will serve as a model for other countries in the Region and worldwide.

Dr. Maureen Birmingham  
PAHO/WHO REPRESENTATIVE IN MEXICO



# Executive summary

There is a wealth of international scientific evidence demonstrating the association between heavy intake of foods or beverages high in sugar—in any of its forms—and the development of overweight, obesity, and diabetes mellitus. Mexico has experienced a rapid increase in the proportion of its overweight and obese population, to 35% in children and 71% in adults, as reflected by a comparison between the National Health and Nutrition Surveys conducted in 1988 and 2012, respectively. Furthermore, Mexico ranks first in the Americas in intake of sugar-sweetened beverages, with a volume of 163 liters (L) per capita per year, and has the highest prevalence of diabetes mellitus (10.8% in the population aged 20 to 79 years) among all member countries of the Organization for Economic Cooperation and Development (OECD).

Since the 1980s, several countries have implemented fiscal and regulatory measures geared at increasing taxes on sugar-sweetened beverages, not only for revenue purposes, but also to reduce demand for and consumption of this type of beverage. Evaluations confirm a reduction in sales and intake of these products, although estimates of the impact of these fiscal measures on health are still lacking.

The National Public Health Institute of Mexico (INSP) computed different mathematical models of the elasticity and regressive nature of a tax on sugar-sweetened beverages, corresponding to a 10, 20, or 30% tax on the purchase price. The Institute demonstrated that the demand for soft drinks in Mexico is elastic, and levying a tax on these beverages would discourage their consumption and provide additional revenue streams for the country. A 20% tax, equivalent to MXN 1.7 (US\$0.12)<sup>4</sup> per liter of beverage, would help decrease consumption from 163.3 L to 120.9 L per capita per year, which would represent a 26% reduction, and would raise nearly MXN 22,861 million (US\$1,687,200,000), which would allow the government to install drinking fountains in schools and public spaces, as well as implement other programs

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<sup>4</sup> Exchange rate: MXN 13.55 per US\$ 1.00, as of 11 October 2015, retrieved from <http://www.banxico.org.mx>. Values in United States dollars were rounded to the nearest ten thousand.

against obesity and overweight. Furthermore, this intervention could reduce the prevalence of diabetes by 12% and curtail costs associated with new cases of this disease by 26% over the next 10 years.

Between 1988 and 2006, the prevalence of overweight increased among women in the lowest quintiles of income. Currently, the prevalence of excess weight is similar in the top and bottom quintiles of living condition, and slightly higher in the middle quintile. These trends suggest that the country is moving toward a situation in which the burden of excessive weight will be greatest on the poorest population, across all ages. Lower-income homes tend to make purchasing decisions that enable intake of the greatest amount of calories at the lowest price, but with lower nutritional quality, whereas in high-income homes, foods with a higher greater cost per calorie are consumed. As a result, lower-income people are more prone to overweight and obesity. Another advantage of this measure is that, although the tax does not impose a disproportionate financial burden on low-income families, this population group exhibits greater price sensitivity, which means that consumption of these products would decline in greater proportion.

By the time the subject of taxes on sugar-sweetened beverages entered the Mexican public agenda through the mass media and in various venues for civil society organizations (CSOs), global technical instruments on this topic had already been developed. In May 2004, the 57th World Health Assembly approved the World Health Organization (WHO) Global Strategy on Diet, Physical Activity, and Health. In 2011, the United Nations framework adopted, by consensus, the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. In 2013, during the World Health Assembly, the WHO Member States approved the Global Action Plan for the Prevention and Control of NCDs, and in 2014, the Directing Council of the Pan American Health Organization (PAHO) approved the Plan of Action for the Prevention of Obesity in Children and Adolescents. All of these proposals agree that fiscal policies should include taxes or subsidies, adapted to each country's national context, that provide incentives for the creation of healthy environments and the greater availability of healthier foods.

Within Mexico, in 2010, the Government (through the Ministry of Health) promoted the so-called "National Agreement for Healthy Nutrition: A Strategy to Reduce Overweight and Obesity" (*Acuerdo Nacional para la Salud Alimentaria – Estrategia contra el Sobrepeso y la Obesidad*), which, in addition to incorporating a multisectoral approach, promoted private-sector involvement by means of self-regulation. However, this tactic achieved few advances and repeated the situation of the European countries, where self-regulation did not produce the expected results. On 23 August 2010, the Agreement was published in the Official Journal of the Federation to establish general guidelines concerning the sale and distribution of food and beverages for consumption at basic education facilities.

As a result of the Pact for Mexico, in 2012, the main political forces in the country agreed to support the required reforms, including fiscal measures; this was essential to obtaining sufficient support to add the tax on sugar-sweetened beverages into the package presented to Congress by the Federal Executive.

As a follow-up to preventive interventions at schools and as a supplemental regulatory measure, changes were made to Article 3 of the Constitution and Transitory Provision 5 so as to regulate the sale of unhealthy foods and beverages in schools. This enabled adaptation of the legal framework to ban all schools from serving foods that are not healthy for students.

On 2 April 2013, within the framework of World Health Day, the President of Mexico, Enrique Peña Nieto, instructed the Ministry of Health to devise a National Strategy for the Prevention and Control of Overweight, Obesity, and Diabetes. The objective of this strategy is to improve the well-being of the population and contribute to the sustainability of national development by slowing the rising prevalence of overweight and obesity, so as to reverse the epidemic of non-communicable diseases (particularly diabetes mellitus type 2) through public health interventions, a comprehensive model of medical care, and intersectoral public policies. The third pillar of the strategy concerns regulatory standards and fiscal policy, and includes the promotion of new, clear front-of-package labeling, as well as the regulation of food and beverage advertisements directed to children. This pillar also includes fiscal policies designed to reduce intake of foods and beverages with limited nutritional value.

The proposal of a Special Tax on Production and Services (IEPS) to be levied on soft drinks and sugar-sweetened beverages arose from the joint effort of various national institutions, including the federal government, Congress, academia, CSOs, and international organizations, which form an intersectoral group that represents most of the sectors interested in application of fiscal policies as a means of improving the health of the Mexican population. The purpose of the tax was to reduce consumption of soft drinks even further in the poorest quintile of the population.

The PAHO/WHO Representative Office in Mexico worked to establish strategic partnerships with several sectors, such as the executive and legislative branches, CSOs committed to the struggle against obesity in Mexico, representations of the United Nations system, and academic and research institutions. In addition, it attended technical meetings at the Senate of the Republic alongside scholars, researchers, and CSO members in order to review the Initiative and support the development of a strategy to make it evidence-based.

This was accompanied by a major mass communication strategy carried out by CSOs. Key messages were publicized on billboards or advertisements and posters in such places as metro stations, streets with significant foot traffic, and avenues where the soft drink industry advertised. Members of CSOs and national research institutes also took part through radio spots, television appearances, and print media, and paid advertisements were placed in all major national newspapers.

One of the greatest challenges was the response of the soft drink industry, which acted much as other interested companies did. The entire industry involved presented a united front against the tax, with very significant activism in the media. One of its strategies was to present opinion makers and medical and nutrition professionals to advance their arguments against the tax and persuade the public opinion in its favor. This generated uncertainty, especially regarding monetary issues, by focusing on the economic impact the tax would have

on the industry in terms of layoffs and lost revenues. Foreign entrepreneurs threatened to divest from the country. Furthermore, the industrial sector deployed actions designed to conduct a permanent search for allies, with intense lobbying in Congress, the cabinet, and other regulatory entities.

Nevertheless, the Treasury Reform was approved. As a fundamental outcome of the government's work and intersectoral participation, the tax on sugar-sweetened beverages was included within the amendments to the IEPS Act. Although the proposed 20% rate was not achieved, the approved tax of MXN 1.00 per liter, corresponding to 10%, is significant and should be celebrated. Later, an item was introduced that was not in the initial proposal, and was incorporated by the Executive into the IEPS Act through an initiative of Congress: levying a tax on energy-dense foods.

The factors for success that helped advance the proposal and secure approval of the tax on sugar- beverages sweetened in Mexico may be described as a synergy of epidemiological-social, political-economic, intersectoral, and global contexts.

The impact of the new law is being measured in its initial stages, through two elements: one concerning revenues collected and another concerning the reduction of demand for and consumption of sugar-sweetened beverages.

Collection of the duties included within the IEPS led to revenues of MXN 124,016,000 million (US\$9,152,472 million) between January and December 2014, which represented a 51.1% increase, mainly by expansion of the tax to sugar-sweetened beverages and energy-dense foods.

Regarding demand for and consumption of sugar-sweetened beverages, the INSP and the Carolina Population Center of the University of North Carolina at Chapel Hill, USA, conducted a study to estimate the effect of the MXN 1.00/L tax that has been levied on sugar-sweetened beverages since 1 January 2014. The preliminary results show an average of 6% reduction in purchases of the dutiable sugar-sweetened beverages in 2014 as compared with 2013.

The results also reveal an approximately 7% increase in purchases of non-taxed beverages (beverages sweetened with artificial sweeteners, sparkling mineral water, plain water, juices with no added sugars, and milk with no added sugars); within this category, sales of plain mineral water increased nearly 4% during the same period. The purchase of carbonated beverages not covered by the tax (beverages sweetened with artificial sweeteners and sparkling mineral water) and other beverages (milk and juices with no added sugars) did not change statistically significantly. It should be noted that the government launched a mass-media information campaign to promote healthy habits, and implemented other supplemental measures at the national level. As a result, we believe the tax may have been an adjunct rather than the sole measure responsible for the reduction in demand.

Seven conclusions may be drawn from the analyses carried out:

1. Tax rate: According to the current evidence, the tax rate should be at least 20% to maximize its impact on the overweight, obesity, and cardiovascular diseases. Although the approved tax rate was 10%, projections made with this percentage show that there will be a positive impact on the reduction of overweight, obesity, and diabetes.
2. Purpose of the generated revenues: Several investigators conclude that the taxes should be combined with subsidies geared toward support for poor families, e.g., to:
  - a. increase access to and availability of drinking water;
  - b. promote a shift toward consumption of healthy foods and beverages;
  - c. improve health care;
  - d. promote changes in agriculture and industry toward healthy foods and beverages.
3. Comprehensive nature of the tax on sugar-sweetened beverages: Several research projects note the importance of considering shifts in consumption toward unwanted substitutes, which could diminish the desired impact. As a result, the tax must be comprehensive, covering all sugar-sweetened beverages, so as to prevent unhealthy substitutions.
4. Regressive and progressive taxation: These taxes are regressive for unhealthy consumption, but not for healthier alternatives; in fact, the end result is progressive, because the taxes protect against chronic diseases, which have an impoverishing effect in the long run. Thus, their positive health impact would be most significant in low-income groups. Furthermore, these groups are more sensitive to changes in price, which means the taxes will have a greater impact on their habits. Hence, impact should be assessed comprehensively.
5. Type of tax: Experience with taxes on tobacco suggests that establishing a specific tax is more advisable than an *ad valorem* tax (one calculated as a percentage of the price). A mixed tax (specific and *ad valorem*) would be ideal. In the case of sugar-sweetened beverages, a tax calculated per gram or milliliter of product would be the most appropriate mechanism.
6. Impact-boosting measures: It is better for consumers to consider the price of the product with the tax included instead of adding the tax at the time of purchase. It is advisable that the tax systematically adjust for the expected level of inflation.
7. Acceptability: Acceptance by the population is greatest when it understands that the tax is meant to improve its health and well-being.

Finally, more time is needed to understand their full impact on health, but preliminary data suggest these fiscal policies are powerful tools to protect public health and collect funds that can be used to promote healthier spaces.

# List of abbreviations and acronyms

CNCD	Chronic noncommunicable diseases
ContraPESO	<i>Plataforma Estratégica contra el Sobrepeso y la Obesidad</i> (Strategic Platform against Overweight and Obesity)
CSO	Civil society organization
CSR	Corporate social responsibility
DKK	Danish krone
ENIGH	<i>Encuesta Nacional de Ingreso y Gasto de los Hogares</i> (National Household Income and Expenditure Survey)
ENSANUT	<i>Encuesta Nacional de Salud y Nutrición</i> (National Health and Nutrition Survey)
GDA	Guideline Daily Amount
HFCS	High-fructose corn syrup
HUF	Hungarian forint
IEPS	Special Tax on Production and Services (Mexico)
INSP	National Institute of Public Health (Mexico)
NOK	Norwegian krone
OECD	Organization for Economic Cooperation and Development
PAHO	Pan American Health Organization
SHCP	Ministry of Finance and Public Credit (Mexico)
T2DM	Type 2 diabetes mellitus
VAT	Value-added tax
WHO	World Health Organization







# 01

## Introduction

It is troubling to know that, in Mexico, 70% of children living in rural communities have soft drinks with breakfast. However, this problem is not exclusive to provincial or rural areas; it affects the vast majority of this country where more soft drinks are consumed than anywhere else in the world.

The 163 L of soft drinks consumed per capita every year,<sup>5</sup> on average, mean that Mexico has the highest rate of deaths related to soft

drink intake among 35 countries reviewed by the American Heart Association, and that the most frequent reason for hospitalization in the country is non-surgical treatment of heart attacks, symptoms of hypertension, and diabetes.

The drawbacks of high consumption of soft drinks, sugar-sweetened beverages, and energy-rich foods are not limited to the already substantial concern over the morbidity associated with these habits, but also to their impact on households and national economies. It has been calculated that 10% of household incomes in Mexico are spent on these products, and that the cost of hospital care for complications of hypertension and diabetes

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<sup>5</sup> Estimated by Brownell KD using data from the Datamonitor Group (<http://about.datamonitor.com/corporate/history.htm>), Euromonitor International (<http://www.euromonitor.com>), and Andreyeva et al. (1).

reached MXN 68 000 million in 2008, an extremely high and alarming figure when one considers that the entire budget of a state of Mexico for the same year, e.g., Jalisco, was MXN 79 000 million. In view of these circumstances, various CSOs proposed that the Federal Government of Mexico should levy a 20% tax on sugar-sweetened beverages (2).

The purpose of the present work is to describe the procedure whereby a tax on sugar-sweetened beverages and energy-dense foods was implemented as a public health strategy in Mexico. This document is an attempt to make our experience public so that useful elements can be replicated in other contexts and further interventions be developed to improve health.

First, we conducted a comprehensive review of the available information and scientific evidence on consumption of sugar-sweetened beverages and its repercussions on health, as well as of related international experiences about the effect of changing prices on consumption of these products. We then obtained information on the process carried out in Mexico, which constitutes the core of this descriptive study.

As part of our explanation of the procedure used to establish the cited tax, data are provided on the presidential order to launch the National Strategy for the Prevention and Control of Overweight, Obesity, and Diabetes and on support for the 2014 Fiscal Reform, which was decreed within the framework of the *Panorama of the obesity epidemic in Mexico*. In the following sections, we will analyze the soft-drink taxation initiative presented on the floor of the Senate of the Republic, with particular emphasis on the impact that this epidemic has had on the economy and health of Mexicans.

One core factor stands out throughout this document: the establishment of strategic partnerships. These include the intersectoral collaboration that took place at various meetings and academic venues, as well as the development of communication tactics. Particularly, we present an analysis based on the challenges posed by the response of the soft-drink industry. Sections on results and achievements explain what the tax on sugar-sweetened beverages and energy-dense foods actually consists of and which types of products are subject to this new tariff. We also mention the factors that contributed to the success of its implementation and highlight some lessons learned.

Meanwhile, seeking to support future evaluations of these measures, we briefly describe the expected impact in terms of revenue streams and demand reduction, as well as the negative consequences associated with consumption of sugar-sweetened beverages. After stating the selected information and analyzing it in relation to the relevant variables of interest, we present proposed conclusions.

Finally, we intend to provide elements useful to countries – not only in the Region of the Americas, but worldwide – that may wish to make their own path toward public policies to improve the health of their populations.

# 02

## Background

### 2.1 Scientific evidence for taxes as a public health strategy

Beverages that contain added sugars, such as sucrose and high-fructose corn syrup (HFCS), are associated with increased risk of weight gain and, as a result, development of overweight and obesity, as well as diabetes (3). In addition, consumption of free sugars or sugar-sweetened beverages is a determinant of body weight, and these products have largely replaced milk, thus decreasing intake of calcium and other nutrients (4, 5).

Refraining from intake of sugar-sweetened beverages or soft drinks and replacing them

with plain water and non-caloric beverages has been demonstrated to prevent weight gain in overweight people (6). Prospective studies conducted in nurses who were followed for 4 years (7-9) reported a mean weight gain of approximately 8 kg. In the longitudinal Framingham Heart Study conducted in the United States, subjects who consumed more than one soft drink per day presented a 37% greater risk of obesity in comparison with non-consumers (10).

Children who habitually consume sugar-sweetened beverages between meals were 2.4 times more likely to be overweight as compared with children who did not con-

sume such beverages ( $p < 0.05$ ) (11). Investigators have concluded that high intake of sugar-sweetened beverages by children and adolescents is predictive of weight gain in adulthood (12-13). Furthermore, a genetic association with adiposity has been found that appears more pronounced when consumption of sugar-sweetened beverages increases, especially in the Hispanic population (14). Accordingly, there is a significant interaction between a major dietary factor—intake of sugar-sweetened beverages—and a marker of genetic predisposition to and risk of obesity (15).

In various studies, replacement of sugar-sweetened beverages by non-caloric beverages has been shown to produce a significant reduction in weight gain and body fat accumulation in children with normal weight (16-18). Furthermore, drinking sugar-sweetened beverages and soft drinks has been identified as a major risk factor for type 2 diabetes mellitus (T2DM) and the metabolic syndrome, an association that is partly mediated by the Body Mass Index (7).

One study on diabetes found 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 this condition (19). Countries with increased availability of HFCS—a sweetener widely used in sugar-sweetened beverages in Mexico—have a higher prevalence of T2DM, in the region of 20%, regardless of obesity prevalence (17). The evidence suggests that people who have a high intake of sugar-sweetened beverages (one standard 12-ounce soda, i.e., approximately 354 mL per day, or more) are at greater risk of developing T2DM as compared with people who do not drink these

beverages. The risk has been reported to range from 26 to 31%, although up to an 83% greater risk of developing T2DM has been found (8, 20, 21).

A relationship between soft-drink intake and the metabolic syndrome has been discovered in Mexico. Statistics show that persons who drink two or more sugar-sweetened beverages/day are at a twofold risk of developing the metabolic syndrome, an illness associated with increased triglycerides and reduced high-density lipoprotein cholesterol levels (22). Furthermore, a positive relationship has been confirmed between intake of sugar-sweetened beverages and incidence of hypertension (23).

Fructose, a fruit-derived sweetener used in sugar-sweetened beverages, is known to increase uric acid concentrations in the bloodstream, and drinking beverages with added sugar has been associated with development of hyperuricemia and gout. In one study, people who drank two or more sugar-sweetened beverages/day had an 85% greater risk of developing gout than those who did not drink such beverages frequently (23). Furthermore, sucrose intake is associated with ectopic fat deposition and increased risk of cardiovascular and metabolic diseases (24).

According to the study “Impact of change in sweetened caloric beverage consumption on energy intake among children and adolescents” by the U.S. National Center for Biotechnology Information, [TN: This study was conducted by investigators at the Columbia Mailman School of Public Health and Harvard School of Public Health, using data from the National Center for Health Statistics, not the NCBI. The confusion may be due to its retrieval from PubMed, an NCBI database.] replacement of sugar-sweetened beverages

with healthier alternatives can greatly reduce calorie intake; 230 mL of a sugar-sweetened beverage provides 106 calories, while the same amount of water only provides 8 calories. The study concludes that replacing sugar-sweetened beverages with water could help reduce caloric intake by 235 kcal/day (25). Another study by the Research Institute of Child Nutrition, Dortmund, focused on the experience of this German city, where drinking fountains were installed in elementary schools to increase access to water. The authors concluded that the risk of overweight was reduced by 31% through implementation of this program (26).

## 2.2 International experiences with taxing sugar-sweetened beverages

Several countries have implemented fiscal mechanisms with a view to improving the health of their populations. Ireland, for instance, established taxes on sugar-sweetened beverages in the 1980s; this action was taken largely due to a need for additional revenue rather than to curtail intake of soft drinks. At the time, the physical manufacturing of these beverages (output reports were obtained directly from manufacturers) was taxed at 0.37 Irish pounds (US\$0.58) per gallon (27). The Irish fiscal authorities observed a 11% reduction in consumption per 10% increase in purchase price. However, the effects of the tax on population health were not examined. Pressure for harmonization of fiscal systems across the European Union, which urged the elimination of special taxes on sugar-sweetened beverages, led to the repeal of the tax in 1992 (27).

In 1981, Norway proposed a tax on sugar, chocolate, and sugar-sweetened beverages. Currently, the country taxes all non-alcoholic beverages with added sugar or sweeteners, chocolates, and sugar at rates of 2.81 Norwegian kroner (NOK) (US\$0.48) per liter (beverages), NOK 17.13 (US\$2.99) per liter (syrup concentrates), NOK 17.92 (US\$2.48) per kilogram (chocolate), and NOK 6.94 (US\$1.21) per kilogram (sugar) (27). Intake of lemonade and regular soft drinks declined significantly between 2001 and 2008 (from 4.8 to 2.5 times per week and from 2.3 to 1.6 times per week, respectively) after establishment of these taxes, in contrast with increasing consumption in many other European countries (27).

Several examples are found in the Pacific Rim. In Samoa, a tax on sugar-sweetened beverages of 0.40 tala (US\$0.18) per liter was established in 1984 (28). Australia joined the list of countries that adopted such measures in the year 2000, when it imposed a 10% tax on sugar-sweetened beverages, confectionery, cookies, and baked goods (28). In 2002, French Polynesia promoted a tax of 60 francs (US\$0.66) per liter on sugar-sweetened beverages, confectionery, and ice cream (28). In 2006, Fiji imposed a 5% tax on imported carbonated sugar-sweetened beverages (28). In 2007, the Republic of Nauru, located on an island near Australia, established a 30% import duty on sugar, confectionery, carbonated beverages, and flavored milk (28).

In 2011, Finland increased its taxes on carbonated beverages and confectionery by € 0.075 (US\$0.10) per liter and €0.75 per kilogram respectively (28). Denmark established a tax on these beverages of 0.34 Danish crowns (DKK) (US\$0.64) per liter; since 2011, products with a saturated fat content >2.3% have also been taxed at a rate of DKK 16 (US\$2.84) per kilogram (27). Statistics from FDB (*Fællesforeningen*

for *Danmarks Brugsforeninger*, Danish Consumers Cooperative Society), the largest retailer of consumer goods in the country, show that Danish consumers purchased leaner meats between November 2011 and August 2012, and reveal a reduction in sales of butter and various products that contain this ingredient (27). However, massive industry backlash led to the abolition of the tax on saturated fats a mere 13 months after its adoption by the Danish Government (27). In its 2013 statistical report, the Danish Agriculture & Food Council reported an increase in beef consumption from 142 000 tons in 2012 to 150 000 tons in 2013 (29).

In Hungary, taxes on sugar-sweetened beverages and energy-dense foods were established in 2011. The tax rates are 5 Hungarian forints (HUF) (US\$0.01) per liter on sugar-sweetened beverages; HUF 250 (US\$1.12) per liter on energy drinks; HUF 200 (US\$0.89) per kilogram on salty snacks and condiments; and HUF 100 (US\$0.44) per kilogram on confectionery, cookies, ice cream, and chocolates (27). After the implementation of the tax, sales of salty snacks declined (33% in the first 6 months), as did soft drink sales—from 117 million liters sold in the last quarter of 2011 to 69 million liters in the first quarter of 2012 (27). Some of the reductions in consumption could partly be attributed to the general economic crisis, as it was reported that people stockpiled products before adoption of the tax (27).

In France, since 2012, all beverages containing added sugar or artificial sweeteners are taxed at €0.07 (US\$0.09) per liter, and energy drinks at €0.50 (US\$0.64) per liter (27). Sales of non-alcoholic beverages in supermarkets declined for the first time in many years, by 3.3% during the first 4 months after the introduction of an added tax of approximately €0.07 per liter on sugar-sweetened and ar-

tificially sweetened beverages, which raised the price of these products by nearly 5% (27). In response, the French National Association of Food Industries deployed a lobbying campaign directed mainly at refuting the government's assertions that the tax was motivated by public health concerns and obesity (27).

Algeria has established a 0.5% tax on the sales volume of soft drink manufacturers (27). The industry backlash was immediate: the Algerian Association of Beverage Manufacturers opposed the measure and has requested its categorical retirement (27).

Some state governments in the United States have created taxes on refreshments. In 38 U.S. states, taxes have been on sugar-sweetened beverages, at rates ranging from 1.225% in Missouri up to 7% in Indiana, Mississippi, New Jersey, and Rhode Island (27). Although this policy is being evaluated for its ability to reduce obesity, research suggests that the current taxes on sugar-sweetened beverages—the average rate is 5%—are too low to have a substantial effect on this disease (27). In the U.S. alone, the sugar-sweetened beverage industry has spent an estimated US\$70 million since 2009 lobbying against taxes on its products (27).

# 03

## The experience of Mexico

### 3.1 The obesity epidemic in Mexico at a glance

The text *Obesidad en México: Recomendaciones para una política de Estado* (*Obesity in Mexico: Recommendations for a State Policy*), which compiles information produced by several actors and institutions in Mexico, notes that obesity is a multifactorial disease characterized by increased deposition of body fat caused by a positive energy balance—i.e., when energy intake surpasses energy expenditure (30-32). A positive energy balance is the proximate cause of obesity, which is modulated by physiological, genetic, and epigenetic factors.

This same publication notes that several underlying causes promote this disease, including widespread availability and access to energy-dense foods and sugar-sweetened beverages; low intake of water, fruits, vegetables, whole grains, and legumes/pulses; mass marketing of processed foods; the relatively low price per calorie of processed, energy-dense foods and sugar-sweetened beverages; and a lack of nutritional guidance. All of these causes are compounded by a loss of dietary culture and by a sedentary environment. Mexico has undergone a transition in epidemiological profile whereby obesity, diabetes, cardiovascular diseases, and other chronic non-communicable diseases (CNCDs)

associated with nutrition are now the leading health problems in the country.

These data explain the need for tackling the problem in cross-cutting, multidisciplinary manner and in different environments, since, on the one hand, obesity increases the demand for health services, and, on the other, it affects the economic and social development of the Mexican population. One of the world's fastest-ever increases in prevalence of excessive weight (overweight and obesity) and its comorbidities has taken place in Mexico.

The National Health and Nutrition Survey (*Encuesta Nacional de Salud y Nutrición*, ENSANUT), carried out in 2012, showed that school-aged children aged 5 to 11 years had a combined nationwide prevalence of overweight and obesity of 34.4% (19.8% overweight and 14.6% obesity). In girls, the prevalence was 32% (20.2 and 11.8% respectively), whereas for boys, the figure was 5 percentage points higher at 36.9% (19.5 and 17.4% respectively) (33). These data mean that around 5 664 870 school-aged Mexican boys are overweight or obese (33). The prevalence of overweight and obesity in children under 5 has also risen slightly over time, almost 2 percentage points from 1988 to 2012 (from 7.8% to 9.7% respectively) (33). The largest increase took place in the northern region of the country, where a prevalence of 12% was reached in 2012, 2.3 percentage points above of the national average (33).

In 1999, the combined prevalence of overweight and obesity in schoolchildren was 26.9% (17.9 and 9.0% respectively), but by 2006, this prevalence had increased almost 8 percentage points (34.8%) (33). The increase between 1999 and 2006 was on the order of 1.1 percentage points per year, or 29.4% in just 6 years, for both sexes (33). Conversely,

between 2006 and 2012, a slight reduction was observed in the prevalence of overweight and obesity in both sexes. In 2012, the pooled prevalence was 34.4% in both sexes, or 0.4 percentage points (1.1%) less than in 2006 (33). However, the ENSANUT notes that some variations are observed between genders and with regard to overweight and obesity.

In adolescents, according to the 2012 ENSANUT, the combined nationwide prevalence of overweight and obesity was approximately 35.8% for females (which represents 3,175,711 adolescent girls throughout the country) and 34.1% for males (which represents 3,148,146 adolescent boys) (33). The proportion of overweight was higher among females (23.7%) than in males (19.6%), whereas the rate of obesity was higher in males (14.5%) than in females (12.1%) (33).

The *Obesity in Mexico* document states that, among children and adolescents, the prevalence is greatest in the top quintiles of income. In this group, between 1988 and 1999, increases in overweight and obesity prevalence of over 30% per year were recorded. However, the greatest increase between 1999 and 2006 was observed within the indigenous population (>15% per year).

ENSANUT 2012 found a combined prevalence of overweight or obesity in adults of 73% for women and 69.4% for men (33). Both in men and in women, the lowest prevalence values were found in the extreme age groups of the adult population: the youngest group (age 20 to 29 years) and the oldest group (age 80 years or more). As a result, excess weight in men rises to a peak prevalence in the 60-to-69 age group, while in women, the highest prevalence is observed in the 30-to-39 age group. As for obesity, the highest prevalence

is found in the 40-to-49 age group in men and in the 50-to-59 age group in women.

Between 1988 and 2006, the prevalence in adult women increased the bottom income quintiles. In 2012, the prevalence of excess weight was similar in the top and bottom quintiles of living condition, and slightly higher in the middle quintile. This was noted in *Obesity in Mexico*, which also states these trends suggest the country is moving toward a situation in which the burden of excessive weight will be greatest on the poorest population, across all ages (34). In addition, lower-income homes tend to make purchasing decisions that enable intake of the greatest amount of calories at the lowest price, but with lower nutritional quality, whereas in high-income homes, foods with a higher greater cost per calorie are consumed. As a result, lower-income people are more prone to overweight and obesity, as suggested by epidemiological data (35).

As the demand for soft drinks in Mexico is elastic, increasing taxes on these products would discourage their consumption and strengthen the country's revenue collection capacity (2). A 20% tax, equivalent to MXN 1.7 (US\$0.12) per liter of beverage,<sup>6</sup> would help decrease consumption from 163.3 L to 120.9 L per capita per year, which would represent a 26% reduction, and would raise nearly MXN 22,861 million (US\$1,687,200,000), which would allow the government to install drinking fountains in schools and public spaces, as well as implement other programs against obesity and overweight (2); it would also help

reduce the prevalence of diabetes by 12% and curtail costs associated with new cases of this disease by 26% over the next 10 years. Consequently, this would reduce the cost of medical care of obesity-related diseases from MXN 42,000 million (US\$3,099,600,000) to MXN 35,000 million (US\$2,583,000,000), which represents a reduction of approximately 17% (2). Another advantage of this measure is that, although the tax does not impose a disproportionate financial burden on low-income families, this population group exhibits greater price sensitivity, which means that consumption of these products would decline in greater proportion (2).

The increase in soft-drink consumption has led to a rise in the number of cases of diabetes and early obesity in Mexican children and young adults, because these beverages contain sucrose, glucose, and fructose, which affect the pancreas and easily reach the blood, from where they are incorporated into tissues and converted to fat (36). If we consider the high cost of obesity and the overweight to the country, not only because 8 out of 10 deaths in Mexico are caused by CNCDS (37) but also due to growing expenditures for the public health system, we can imagine the future cost of treating these diseases in a population that develops them at increasingly early ages.

From 1980 to 2000, a 47% increase was identified in mortality attributable to T2DM, which went from being the ninth leading cause of death nationwide in 1980 to the third in 1997 and the second in 2010, with nearly 83,000 deaths (38).

According to the *Obesity in Mexico* document, an analysis of the burden of disease based on 2004 data (39) showed that 75% of all deaths in the country were caused by CNCDS. The

<sup>6</sup> Exchange rate: MXN 13.55 per US\$ 1.00, as of 11 October 2015, retrieved from <http://www.banxico.org.mx>. Values in United States dollars were rounded to the nearest ten thousand.

leading causes were diabetes mellitus, ischemic heart disease, and cerebrovascular disease. The main risk factors were overweight and obesity, high blood glucose levels, alcohol consumption, and smoking. Overweight, obesity, and hyperglycemia alone accounted for 25.3% of all deaths in the country.

The total cost of overweight and obesity doubled between 2000 and 2008, from MXN 35,429 million (US\$2,614,700,000) to at least MXN 67,345 million (US\$4,970,000,000), and is estimated to rise further to MXN 150,860 million (US\$11,133,600,000) by 2017 (40).

Likewise, the estimated indirect cost of loss of productivity due to premature death attributable to obesity was MXN 25,000 million (US\$1,845,000,000) in 2008, a figure that has grown 13.51% per annum. If this problem is not addressed through public programs and policies for the prevention and reduction of obesogenic factors, the cost should reach MXN 73,000 million (US\$5,387,500,000) by 2017, and will affect approximately 68,000 families per year (40).

With such high rates of overweight and obesity, high consumption of soft drinks, and the cost of these factors to the health system and to household budgets, Mexico is at risk of a deceleration in economic development. It is imperative that draft legislation be prepared to raise taxes on soft drinks as a public health measure to decrease the high levels of consumption of these products and their negative consequences. The proposal should also be considered from the fiscal standpoint as a revenue-generating measure that will make more resources available to the state, possibly for investment in programs for the prevention and treatment of overweight and obesity.

### 3.2 Global development of technical instruments

In May 2004, the 57th World Health Assembly approved the WHO Global Strategy on Diet, Physical Activity, and Health, which was developed on the basis of a broad series of consultations with all stakeholders, in response to a petition made by the Member States during the 2002 World Health Assembly (resolution WHA55.23) (41).

The Global Strategy has four main objectives (41):

1. To reduce the risk factors for noncommunicable diseases that stem from unhealthy diets and physical inactivity by means of essential public health action and health-promoting and disease-preventing measures;
2. To increase the overall awareness and understanding of the influences of diet and physical activity on health and of the positive impact of preventive interventions;
3. To encourage the development, strengthening and implementation of global, regional, national and community policies and action plans to improve diets and increase physical activity that are sustainable, comprehensive, and actively engage all sectors, including civil society, the private sector and the media;
4. To monitor scientific data and key influences on diet and physical activity; to support research in a broad spectrum of relevant areas, including evaluation of interventions; and to strengthen the human resources needed in this domain to enhance and sustain health.

According to the text of the Global Strategy, it is meant to encourage the development and promotion of national policies, strategies, and action plans to improve diets and increase physical activity. The Strategy also notes the core leadership and stewardship functions of governments, in the beginning and during the development of the Strategy, with particular emphasis on ministries of health, given their essential responsibility for coordinating and facilitating the contributions of other ministries and agencies. Furthermore, it establishes that national policies related to food and agriculture should be consistent with the protection and promotion of public health. As prices influence consumer choices, public policies can be used to influence prices through taxation, subsidies, or direct pricing in ways that encourage healthy diets and lifelong physical activity (41).

the United Nations adopted by consensus the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases, which also included recommendations on fiscal policies. During the 2013 World Health Assembly, the Member States approved the Global Action Plan for the Prevention and Control of Noncommunicable Diseases, which proposed that fiscal policies should incorporate taxes or subsidies—adapted to each country’s national context—that promote incentives to establish healthy environments and improve availability of healthier foods. The Plan of Action for the Prevention of Obesity in Children and Adolescents, adopted by the PAHO Directing Council in 2014, contains the same recommendation.

### 3.3 The political situation in Mexico

Among the efforts undertaken in Mexico, in 2010, the Government—through the Ministry of Health—promoted the National Agreement for Healthy Nutrition: A Strategy to Reduce Overweight and Obesity (42), which, in addition to incorporating a multi-sectoral approach, encouraged private-sector involvement by means of self-regulation. However, this tactic achieved few advances and repeated the situation of the European countries, where self-regulation did not produce the expected results. On 23 August 2010, the Agreement was published in the Official Journal of the Federation to establish general guidelines concerning the sale and distribution of food and beverages for consumption at basic education facilities (43).

In the months following December 2012, Mexico experienced a political transition between federal administrations. Within this context arose the Pact for Mexico, a political agreement whereby, once both chambers of the Congress of the Union were installed and the result of presidential election had been ratified, the leaders of the transition team of president-elect Enrique Peña Nieto and representatives of the Institutional Revolutionary Party, of the National Action Party, and of the Party of the Democratic Revolution held various meetings to address topics on the transition agenda (44). As a result of and in accordance with the Pact, the main political forces in the country agreed to support the required reforms, including fiscal measures; this was essential to obtaining sufficient support to add the tax on sugar-sweetened beverages into the package presented to Congress by the Federal Executive.

As a follow-up to preventive interventions at schools and as a supplemental regulatory measure, changes were made to Article 3 of the Constitution and Transitory Provision 5 so as to regulate the sale of unhealthy foods and beverages in schools. The Decree, which amends items III, VII, and VIII of Article 3 and item XXV of Article 73, and appends a third paragraph (paragraph **d**) to the second paragraph of item II and adds item IX to Article 3 of the Political Constitution of the United Mexican States, was published in the Official Journal of the Federation on 26 February 2013, and points out in Transitory Provision 5, item III, paragraph **c**, that the Congress of the Union and the authorities having jurisdiction should, among other measures, provided for the necessary adaptations to the legal framework so as to ban from schools all foods that are not healthy for students (45). As mentioned earlier, the Government of Mexico also issued, on 16 May 2014, an Agreement establishing general guidelines for the sale and distribution of foods and beverages prepared and processed at schools of the National Educational System (43).

On 2 April 2013, within the framework of World Health Day, the President of Mexico, Enrique Peña Nieto, instructed the Ministry of Health to devise a National Strategy for the Prevention and Control of Overweight, Obesity, and Diabetes, which, as structured, is governed by four premises (46):

1. Health should be present in all public policies.
2. The approach to health care should be based on the social determinants of health under a comprehensive approach that includes from its promotion up to medical care.
3. Special emphasis should be placed on the sum of efforts and on alignment of actions across all sectors and actors.
4. The essential elements for its proper operation will be measurement of the impact of all actions and accountability.

The objective of the strategy is to improve the well-being of the population and contribute to the sustainability of national development by slowing the rising prevalence of overweight and obesity in Mexico, so as to reverse the epidemic of CNCDS (particularly T2DM) through public health interventions, a comprehensive model of medical care, and intersectoral public policies.

The first pillar of this public health strategy proposes strategic actions and seeks to preserve the health of the population by encouraging healthy lifestyles, undertaking educational campaigns, monitoring patterns of CNCDS and some of their main determinants, and providing for preventive actions, such as active search of people with risk factors. The second pillar seeks to guarantee effective access to the health services so the population can receive early care as soon as risk factors or diseases arise, and to guarantee that these services have the means and technology necessary for their proper operation (as well as trained human resources), conduct research, and generate scientific evidence. The third pillar of the strategy concerns regulatory standards and fiscal policy, and includes the promotion of new, clear front-of-package labeling, as well as the regulation of food and beverage advertisements directed to children. This pillar also includes fiscal policies designed to reduce intake of foods and beverages with limited nutritional value.

# 04

## The proposal: impact on the economy and on the health of Mexicans

The proposal of a Special Tax on Production and Services (IEPS) to be levied on soft drinks and sugar-sweetened beverages arose from the joint effort of various national institutions, including the federal government, Congress, academia, CSOs, and international organizations, which form an intersectoral group that represents most of the sectors interested in application of fiscal policies as a means of improving the health of the Mexican population. The proposal is based on the scientific evidence that shows the relationship between intake of sugar-sweetened beverages, overweight, and obesity, as well as on epidemiological data that demonstrate the serious problem caused by this association,

which means that the two linchpins of the proposal consisted of discouraging consumption of sugar-sweetened beverages, through a 20% tax, and to collect resources for the implementation of obesity prevention programs, particularly one that promotes better, more widespread access to drinking water in schools, public spaces, and rural areas (47).

On the basis of various analyses and estimates of elasticity of demand and regressivity, the suggested IEPS was expected to reduce consumption of beverages with added sugar by around 26%, i.e., to reduce per capita intake from 163 to 120-130 L/year and from approximately 289 mL/day to nearly 214 mL/

day. The purpose of the tax was to reduce consumption of soft drinks even further in the poorest quintile of the population.

As stated earlier, this reduction in consumption would lead to a 5% reduction of the prevalence of overweight and obesity in adults within 10 years and would reduce the prevalence of diabetes by nearly 12% (53,000 cases per year). Furthermore, the tax would cut costs associated with new cases of diabetes by nearly 25% during the next 10 years, which would correspond to a roughly 17% reduction in direct expenditures on diabetes-related care, from MXN 42,000 million (US\$3,099,600,000) to MXN 35,000 million (US\$2,583,000,000). In addition, this measure would increase tax revenues by at least MXN 22,000 million (US\$1,623,600,000).

The proposal of a legislative initiative to tax sugar-rich beverages and soft drinks began to gather momentum in the second semester of 2012, within the framework of a discussion on the fiscal package, when a group of senators and representatives, headed by senator Marcela Torres Peimbert, reopened the proposal and analyzed its relevance and rationale. The opinions of other lawmakers, for and against the proposal, were heard. It was evident that those who opposed the proposal expressed the same arguments advanced by the soft drink industry.

Since then, the PAHO Representative Office in Mexico provided information and international scientific evidence to support the proposed collaboration. Furthermore, it called on a group of public and private institutions interested in the matter to attend periodic technical discussions, thus establishing an intersectoral working group. This group met regularly at the PAHO office to support the proposal with national and international sci-

entific evidence and outline a strategy that would allow them to reach the general population and government decision-makers, in preparation for presentation of the bill to the Congress of the Union.

During the first ordinary period of the inaugural year of the LXII Legislature, on Tuesday, 11 December 2012, an Initiative containing the draft decree which would reform and amend several provisions to the IEPS Act was presented (48). The bill sought to reform Article 2, section II, item **a**; Article 4, paragraphs 2 and 4; Article 5-A, paragraph one; and Article 19, sections II, paragraph three, and VIII, X, XI, and XIII; and add to Article 2, section I, item **I** and a final paragraph, and to Article 3, section XVIII, of the IEPS Act, so as to institute a tax on sugar-sweetened beverages and establish that all revenues collected under this tax were to fund the expenses created by diseases caused by consumption of these products, through the National Health System, without detriment to the provisions of the Fiscal Coordination Act (48).

The Initiative manifested the need for a special 20% *ad valorem* tax on the retail price of all beverages and products used to manufacture beverages that are sweetened with sugar and thus provide calories. These include soft drinks, concentrates, powders, syrups, and essences or flavor extracts that yield such beverages upon dilution, based on the fact that, as mentioned elsewhere, the sugar content of these beverages is one of the leading causes of overweight and obesity (47).

Once presented, the Initiative was sent to the Finance and Public Credit Commission of the Chamber of Representatives for its opinion, which, as it concerned a fiscal matter, would be discussed in the first session of the second year of the LXII Legislature (47). The initia-

tives were rejected without possibility of reconsideration (49). Thus, the Initiative, alongside many other proposals, was discarded.

Despite this obstacle, the intersectoral group coordinated by the PAHO/WHO Representative Office in Mexico persisted in its joint efforts to continue promoting the proposal. In parallel, political meetings were held between the Senate of the Republic and the Ministry of Finance and Public Credit (SHCP), to encourage inclusion of the IEPS on soft drinks in the draft income and treasury reform legislation that would be presented in September 2013. Likewise, technical exchange efforts were established between the promoters of the tax and the SHCP.

Finally, on 8 September 2013, President Enrique Peña Nieto, under the provisions of article 71, section I, of the Political Constitution of The United Mexican States, presented the bill which would reform, amend, and repeal various provisions of the Value-Added Tax Law, of the IEPS Act, and of the Fiscal Code of the Federation (50) which included a tax on sugar-sweetened beverages and soft drinks. The Treasury Reform was endorsed by the Chamber of Deputies on 24 October and sent to the Senate of the Republic for appreciation and debate. On 31 October 2013, the Senate concluded its analysis and, with some modifications, endorsed the proposed Treasury Reform (51). The Reform adopted by the Executive proposed a 10% tax on sugar-sweetened beverages and soft drinks, unlike the initial parliamentary proposal, supported by the intersectoral group, of a 20% tax, which was rejected in April 2013.



# 05

## Strategic partnerships

### 5.1 Consolidation of the intersectoral group

The PAHO/WHO Representative Office in Mexico worked to establish strategic partnerships with several sectors, such as the executive and legislative branches, CSOs committed to the struggle against obesity in Mexico, representations of the United Nations system, and academic and research institutions. In addition, it attended technical meetings at the Senate of the Republic alongside scholars, researchers, and CSO members in order to review the Initiative and support the development of a strategy to make it evidence-based.

PAHO/WHO responded to information requests—providing technical information, scientific evidence, and international experience to the lawmakers involved in the bill—by preparing fact sheets. These included key messages and national and international scientific evidence for sharing with journalists, opinion makers, and lawmakers uninvolved with the new Initiative that was included in the Treasury Reform proposal made by the Executive.

As this was a matter of fiscal policy over which the SHCP had sole jurisdiction, it was very important for PAHO/WHO to hold

formal and informal talks with the national health authorities to report on what was being done and to promote the intervention. Hence, at the national level, PAHO/WHO was permanently involved in opportunities for intersectoral discussion and consultation provided by the health authority. These meetings focused on preparation of the National Strategy for the Prevention and Control of Obesity, Diabetes, and Overweight with regard to the matter of the sugar-sweetened beverage tax.

The PAHO/WHO Representative Office in Mexico convened and led strategic and intersectoral coordination meetings for priority setting and joint activities, as well as for the definition of specific roles and responsibilities, with respect for the individual characteristics of each institution.

The biweekly coordination meetings were attended by representatives of the Ministry of Health, the Senate of the Republic, academic and research institutions, CSOs, and the United Nations system in Mexico. In parallel, within PAHO/WHO, work was conducted with a focus on permanent coordination with the regional program, and support at the global level was requested as necessary.

This collaboration made it possible to compile, systematize, and share scientific evidence and global information on successful experiences in the matter, as well as collaborate with technical information produced by PAHO/WHO to guide and sustain the preparation of high-impact public policies, recommend and monitor development and implementation of strategic activities, and mobilize international experts. Especially, on the basis of the permanent collaboration that was achieved by consolidating the in-

tersectoral group of support and strategic coordination of the initiative to increase taxes on sugar-sweetened beverages, agreements were made to organize joint activities. These included three strategic forums that received broad media coverage and were scheduled on dates related to the key moments of discussion of the proposed law in the communications media, by the SHCP, and in the Congress of the Union.

**Impuestos al refresco: una política fiscal saludable (“Soft drink taxes: healthy fiscal policy”). Media forum geared to journalists and opinion makers. 9 August 2013, Mexico City. (52)**

The Senate of the Republic, with technical support from the PAHO/WHO Representative Office in Mexico, convened a debate with opinion leaders and members of the communications media, titled “Soft drink taxes: healthy fiscal policy”, with the objective of showing the importance of fiscal measures as tools to reduce demand and discourage consumption of these products. This strategy represents a viable response to the growing social and financial costs caused by obesity in the country.



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**Impuestos por la salud: el caso del IEPS a los refrescos (“Taxes for health: the case for an IEPS on soft drinks”). Economic forum at Instituto Tecnológico Autónomo de Mexico, geared to economists, decision-makers, and advisors on economic and fiscal policy. 26 August 2013, Mexico City. (53)**

With the goal of obtaining public policy proposals to tackle overweight and obesity, and specifically to discuss the tax on sugar-sweetened beverages, on 26 August, the “Obesity in Mexico: public policies and economic implications” forum began at the Instituto Tecnológico Autónomo de Mexico. The forum included representatives from the Senate, PAHO, the Ministry of Health, CSOs, and faculty from major academic institutions.



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**Impuesto a las bebidas azucaradas: una política fiscal saludable (“A tax on sugar-sweetened beverages: healthy fiscal policy”). Legislative forum geared to senators and representatives. 11 September 2013, Mexico City. (54)**

From the perspective of national and international scientific evidence, the objective of this event was to highlight the importance of fiscal measures as public health tools to

reduce demand of harmful products. The event was attended by eminent scientists, academics, researchers, and lawmakers involved with the subject, including Congressman Jaime Delgado of the Republic of Peru, who shared valuable legislative experiences on healthy eating from his country.



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## 5.2 Mass media communications strategy

The campaigns were based on scientific evidence, had funding support, and were backed by the interinstitutional group. Communication experts played an essential role in the development of the strategy, because, in addition to the campaigns, key activities, messages, and relevant issues were disseminated through the strategic events held.

The fact that efforts were undertaken in a coordinated, networked manner was very important, as was the availability of research capabilities for diagnosis, planning milestones, preparing timetables for actions and activities, proposing attainable and measurable short- and long-term objectives, and presenting clear, simple, specific messages for every audience and communication medium,

as well as to use multiple communication channels rather than only traditional media. Networks were a very interesting tool for communication. Experience also showed that the process should be documented and monitored and contact continuous maintained so as to receive feedback from stakeholders.

Regarding the mass communication strategy carried out by the CSOs, key messages were publicized on billboards or advertisements and posters in such places as metro stations, streets with significant foot traffic, and avenues where the soft drink industry advertised. The cooperation of CSOs played a decisive role in dissemination of this information. Furthermore, members of CSOs and national research institutes also took part through radio spots, television appearances, and print media, and paid advertisements were placed in all major national newspapers.

Within the context of health promotion and risk communication, the communication tactic focused on securing the attention of decision-makers, obtaining the support and commitment of the population, and having an impact on the manner in which a given subject is understood, for the purpose of fostering behavioral and lifestyle changes. As a result, the core objective of the communication strategy was to provide information and scientific evidence that supported the tax on sugar-sweetened beverages. The communication strategy also focused on the destination of the resources collected via the tax in question.

In mid-2012, the *Alianza por la Salud Alimentaria* (Partnership for Dietary Health) CSO network took shape in the form of a manifesto. By the end of the year, a campaign was begun with the objective of focusing on fiscal measures through a publicity strategy to visualize the subject of obesity and dia-

betes, on the basis of the scientific evidence, which was always presented in a particular order: first, the problem was shown; second, its causes were pointed out; third, proposals were made. The campaign featured statements based on the recommendations of the Organization for Economic Cooperation and Development (OECD) and on the suggestions of United Nations Special Rapporteur on the Right to Food Olivier de Schutter. The campaign showed the magnitude of the economic and human problem, focusing on the cause (high consumption of sugar-sweetened beverages) and its consequence (that same year, Mexico had become the world's top consumer of these products).

On 22 May 2013, some members of the Partnership for Dietary Health launched the campaign “¿Te comerías 12 cucharadas de azúcar? ¿Por qué te las bebes en un refresco?” (“Would you eat 12 tablespoons of sugar? Why would you drink them?” to raise awareness of the high sugar content of a single 600-mL container of these beverages and the health risk it poses (55).

During a demonstration on the steps of the Ministry of Health, several people carried bags containing 22.99 kg of sugar, which



“12 tablespoons” campaign on the steps of the Ministry of Health, Mexico City, 22 May 2013.

symbolized the body burden of consuming 600 mL of sugar-sweetened beverages daily (12 tablespoons of sugar) (55).

The Partnership for Dietary Health webpage provided resources such as TV spots and posters from a campaign that had a major impact on the general population by raising awareness of how much sugar soft drinks actually contain. This campaign was widely publicized in various media outlets and created a debate on the need for the tax.

Two of the posters are shown below (for copyrights and usage guidelines, see footnote):<sup>7</sup>



<sup>7</sup> Copyrights and Usage Guidelines: The images and posters of the “12 tablespoons” campaign are the intellectual property of the Partnership for Dietary Health. Their use is authorized under the terms of the Creative Commons Attribution-Non-Commercial-NoDerivs 2.5 Mexico license, which means these works are free to copy, redistribute, perform, and disseminate in their entirety, without modification of any of the text, images, logos, or legends, for public, nonprofit purposes, to raise awareness among the population, under the following conditions:

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**Noncommercial:** This material cannot be used for commercial purposes.

**No derivatives:** This material cannot be altered, transformed, or built upon to create derivative works.

The Partnership for Dietary Health is not liable for material developed by third parties, whether it is original, influenced by the “12 tablespoons” campaign, or a derivative work made therefrom without express permission for use of elements created for the campaign. If you wish to produce a derivative work, please contact the Partnership for Dietary Health and request express permission. For further information or additional proposals for use, please contact the Partnership for Dietary Health. <http://alianzasalud.org.mx/carteles/>



Another action involved the “No te hagas daño tomando bebidas azucaradas” (“Don’t hurt yourself by drinking sugar-sweetened beverages”) campaign. The Partnership for Dietary Health presented this campaign to raise awareness of the health risk associated with heavy intake of these beverages, while simultaneously promoting intake of plain water, sparkling water, skim milk, and sugar-free tea as the best options for hydration (56). It also worked to highlight the idea that the money collected through the tax would

be used to install drinking fountains in public spaces.

The CSO that promoted these campaigns faced the censorship of companies that reacted by refusing to provide space on billboards, bus stops, or television. Few media outlets opened their doors to the campaign. One element in favor was that the trajectory of the CSO involved was not associated with political objectives, which facilitated the reaction of counter-attacking the media campaign waged by the soft drink manufacturers.

# 06

## Challenges faced

### 6.1 The response of the soft drink industry

One of the greatest challenges was the response of the soft drink industry, which acted much as other interested companies did. The entire industry involved presented a united front against the tax, with very significant activism in the media—television, radio, press and advertising campaigns. One of its strategies was to present opinion makers and medical and nutrition professionals to advance their arguments against the tax and persuade the public opinion in its favor.

These arguments generated uncertainty, especially regarding monetary issues, by focusing on the economic impact the tax would have on the industry in terms of layoffs and lost revenues. Foreign entrepreneurs threatened to divest from the country. Furthermore, the industrial sector deployed actions designed to conduct a permanent search for allies, with intense lobbying in Congress, the cabinet, and other regulatory entities.

The mechanisms of the industry backlash were similar worldwide, through mobilization and deployment of front groups to

warn governments of false impacts on the economy as a means of advancing industry interests. In this case, the industry used groups such as sugarcane producers and retailers, among others. Another tactic on the part of the industry involved constant offers of funding for physical activity and corporate social responsibility programs.

Annex 1 lists the arguments advanced by the soft drink manufacturers against the tax during discussion of the initiative in Congress. The annex also describes the joint response of the intersectoral group that supported the bill included by the Executive in its Treasury Reform, which was still undergoing discussion in Congress. First, the general arguments used by the industry are presented, and then are grouped into economic, social, and medical arguments, to which counter-arguments were immediately presented by way of rebuttal.

## 6.2 Institutional scope of action

The initial proposal was conceived by a senator, not by a representative of the President of the executive branch, nor was it a joint position of senator's party in Congress. Thus, the idea had not arisen within the framework of the National Pact between the Executive Branch and the main parties. Furthermore, the core purpose of this initial proposal was to have an impact on public health through scientific evidence from national and international studies; its original intent was not to provide additional tax revenue, although consideration was given to the benefit the government would derive from having additional financial resources, which could be invested on the drinking water supply systems of schools and public spaces.

The definitive proposal was presented by the Executive Branch within the Treasury Reform package. The SHCP was responsible for drafting the proposal, which posed a challenge so ensuring that the essence of the initial proposal drafted by senator Marcela Torres with the technical support of the constituent institutions in the Intersectoral Group that called on PAHO/WHO was kept. Once the Treasury Reform had been launched by the Executive Branch, contact was once again made with the Ministry of Health, which declared that, as a matter of fiscal policy, management to the initiative was under the purview of the other Ministry, but that the two Ministries would remain in constant communication in the interest of the arguments and scientific evidence that justified the measure from the public health perspective. Finally, the proposal submitted by the Executive Branch kept the essence of the initial draft; only the tax rate was modified, from the original 20% to 10%.

Another challenge faced was how to legally earmark the resources collected through the tax toward specific programs such as the installation of drinking fountains in schools and public spaces or the prevention of overweight and obesity, as Mexican fiscal policy usually does not provide for earmarking of collected resources.

An additional challenge was how to “translate” the information generated by scientific research and national and international evidence to a vocabulary understandable to the general population and the decision-makers of the Executive and Legislative Branches. The representatives were not specialists in public health, economy, or statistics; however, the robustly supported technical arguments played an important role in the adoption of the tax.

# 07

## Results and achievements

### 7.1 Tax on sugar-sweetened beverages and energy-dense foods

The main outcome of this work was the adoption of the Treasury Reform, which contained the tax on sugar-sweetened beverages within the amendments to the IEPS Act. Although the proposed 20% rate was not achieved, the approved tax of MXN 1.00 per liter, corresponding to 10%, is significant and should be celebrated.

The latest reform of the IEPS Act of Mexico, published in the Official Journal of the Federation on 11 December 2013, states in Title I, Chapter I (General Provisions), Article 1 (57):

All individuals and legal entities that carry out the following activities are subject to payment of the tax established in this Law:

- I. Conveyance within national borders or, if applicable, importation of the goods indicated in this Law.
- II. Provision of the services indicated in this Law.
  - The tax will be calculated by applying on the values referred to herein the rate established for the corresponding good or ser-

vice in Article 2 of this document or, if applicable, the quota set forth in this Law.

- The Federation, Federal District, States, Municipalities, decentralized agencies, or any other person, even if according to other laws or decrees are not subject to federal taxes or are otherwise exempt from them, should accept the special tax on production and services and, if applicable, pay and transfer this text, in compliance with the provisions of this Law.
- The tax to which this Law refers is not considered to violate any prices or rates, including official prices.

In Article 2, the Act notes that taxes or quotas will be added to the value of the activities listed below upon the conveyance or, if applicable, importation of various goods (section I). Paragraph *g* refers to “flavored beverages; concentrates, powders, syrups, flavor essences or extracts that, upon dilution, yield flavored beverages; as well as syrups or concentrates used to prepare flavored beverages that are dispensed into open containers using automatic, electric, or mechanical equipment, whenever the goods to which this paragraph refers contain any type of added sugars.”

The rate applied to these products will be MXN 1.00 per liter. With regard to concentrates, powders, syrups, and flavor essences or extracts, “the tax will be calculated taking into account the quantity in liters of flavored beverage that can be obtained by following the manufacturer’s instructions.”

The IEPS Act notices that the provisions of this paragraph will be also applicable to the goods listed in paragraph *f* of the section when they contain added sugars, in addition to the tax set forth in this paragraph *f*. This paragraph refers to energy drinks as well as to concentrates, powders, and syrups used to prepare energy drinks (tax rate: 25%).

The quota to which this part refers will be updated in accordance with the provisions of the sixth and seventh paragraphs of article 17-A of the Fiscal Code of the Federation, which, according to the text in effect since the latest reform, as published in the Official Journal of the Federation on 14 March 2014, states (57):

*Paragraph Six.-* The amounts in national currency established in this Code will be updated when the cumulative percentage increase of the National Consumer Price Index since the month during which the last update took place exceeds 10%. Said update will come into effect on 1 January of the exercise following that during which the increase occurred. The aforementioned update will take into consideration the period from the last month that was used in calculation of the last update until the last month of the exercise during which the cited percentage was exceeded. For these purposes, the update factor will be obtained by dividing the National Consumer Price Index of the month immediately preceding the most recent index of the period between the National Consumer Price Index corresponding to the last month that was used for calculation of the last update.

*Paragraph Seven.*- Concerning amounts that there are established in this Code that have not been subject to an update under the terms of the previous paragraph, when such an update is carried out under the terms of this paragraph, the National Consumer Price Index corresponding to the month of November of the fiscal year immediately preceding that during which it came into effect shall be used.

*Paragraph Eight.*- In determining the amounts to which paragraphs six and seven of this article refer, the subdivisions of the peso will be taken into consideration; the foregoing notwithstanding, amounts will be adjusted so that amounts from 0.01 to 5.00 pesos, greater than one decimal, will be rounded down to the nearest decimal, whereas those from 5.01 to 9.99 pesos, greater than one decimal, will be rounded up to the nearest decimal.

A point that, although not included in the initial proposal, was then incorporated by the Executive into the IEPS Act on the basis of a congressional initiative was to tax energy-dense foods. The Act includes in paragraph *j* the following non-staple foods with a caloric density of 275 kcal per 100 g or higher (tax rate: 8%) (57):

1. Snacks.
2. Confectionery products.
3. Chocolate and other cocoa-derived products.
4. Flans and puddings.
5. Fruit- and vegetable-derived sweets.

6. Peanut butter and hazelnut spreads.
7. Dulce de leche.
8. Cereal-based processed foods.
9. Ice cream, snow cones, and popsicles.

When the aforementioned foods fulfill the provisions related to general labeling specifications for food, taxpayers can take into account the kcal content listed on the label. Foods that do not contain nutrition labels will be presumed to have a caloric density equal to or higher than 275 kilocalories per 100 grams unless proven otherwise by testing. The Tax Administration Service, through the use of general rules, will issue a list of staple foods, considering their importance to the diet of the population, to which the provisions of this paragraph will not apply.

Likewise, according to section II, Article 2 of the IEPS Act, tax rates and quotas will be applied to the provision of the following services (57):

*A) Commission, mediation, agency, representation, brokerage, consignment, and distribution, for the purpose of conveyance [of energy drinks, concentrates, powders, and syrups for the preparation of energy drinks], [...] and J) [non-staple foods... with an energy density of 275 kilocalories per 100 grams or greater] in section I of this Article. In these cases, the applicable rate will be that which corresponds to conveyance within national borders of the good in question under the applicable provisions of this Law. The tax shall not apply when the*

services to which this paragraph refers are provided for the purpose of conveyance of goods for which payment of this tax is not required under the terms of Article 8 of the Act proper.

The commission points out that, according to the aforementioned Article 8, the IEPS, as set forth in section I of the Act, will not be levied on conveyances<sup>8,9</sup> “carried out by persons other than manufacturers, producers, or importers of [flavored beverages; concentrates, powders, syrups, flavor essences or extracts that, upon dilution, yield flavored beverages; as well as syrups or concentrates used to prepare flavored beverages that are dispensed into open containers using automatic, electric, or mechanical equipment, whenever the goods to which this paragraph refers contain

any type of added sugars]. In these cases, persons other than manufacturers, producers, or importers are not considered payers of this tax by virtue of such conveyances (paragraph c).”

Paragraph *d* includes sale of [energy drinks, concentrates, powders, and syrups for the preparation of energy drinks] to the general public, unless done by a manufacturer, producer, packaging plant, distributor, or importer of the goods being conveyed. “Merchants who obtain most of their revenue from conveyance other than to the general public will not enjoy the benefit described in this paragraph. Conveyances for which invoices are issued are not considered to have been made to the general public”.

Subsequently, paragraph *f* shows that sales “[...] of flavored beverages at restaurants, bars, and other places where food and beverages are served” will not be taxed, nor will “flavored beverages that are registered as medicinal products by the health authority, milk in any form (including milk mixed with vegetable fat), or oral electrolyte solutions.” Furthermore, for the purposes of the IEPS Act, Article 3 contains the definitions of the products that are subject to the tax, as explained in section 7.2 below.

## 7.2 Product classes subject to the new tax

The types of products subject to the new tax are defined in the IEPS Act of Mexico, Article 3 of which states (57):

XVII. Energy drinks are defined as all non-alcoholic beverages containing a mixture of caffeine (at a concentration higher than 20 milligrams per 100 mil-

<sup>8</sup> That is, the transfer of the right to a good from one party to another.

<sup>9</sup> Article 7 establishes that, for the purposes of the IEPS Act, the following also constitutes conveyance, in addition to the definition contained in the Fiscal Code of the Federation: “any shortfall of raw materials or goods in the inventories of taxpayers that do not fulfill the requirements set forth in the Regulatory Provisions of this Law. In the latter case, the presumption admits evidence to the contrary.” For the purposes of this law, conveyance is also defined as “[...] the removal [of goods] from their place of manufacturing or packaging or, when applicable, from the taxpayer’s warehouse, when the [goods] are not destined for sale and are packaged in containers of up to 5,000 mL capacity. [...] Likewise, the following also constitutes conveyance of goods [...] the removal [of goods] from their place of manufacturing or packaging or, when applicable, from the taxpayer’s warehouse, when the [goods] are not destined for sale and are packaged in boxes or packs [...] The transfer of property by cause of death or donation, so long as the donation is deductible for income tax purposes, is not considered conveyance [...] The sales of alcoholic beverages to the general public from open containers or by the glass, for consumption at the place or establishment in which they are being served, also does not constitute conveyance.”

liliters of product) and taurine or glucuronolactone or thiamine and/or any other substance that produces similar stimulating effects.

Energy concentrates, powders, and syrups are defined as those that may be diluted to obtain energy drinks with the characteristics described in the previous paragraph.

XVIII. Flavored beverages are defined as all non-alcoholic beverages prepared by dissolving sugars in water of any type, and which may include additional ingredients such as natural, artificial, or synthetic flavoring agents, with or without added fruit or vegetable juice, pulp, or nectar, concentrates or extracts thereof, or other food additives, and which may or may not be carbonated.

XIX. Concentrates, powders and syrups, flavor essences or extracts used in the manufacture of flavored beverages, i.e., products, with or without sweeteners or flavoring agents, whether natural, artificial, or synthetic, with or without added fruit or vegetable juice, pulp, or nectar or other food additives.

XX. Sugars [are defined as] monosaccharides, disaccharides, and polysaccharides, whenever used as calorie-containing sweeteners.

XXI. Oral electrolyte solutions are defined as preparations that consist of an aqueous solution of each and every one of the following substances: anhydrous glucose, potassium chloride, sodium chloride, and trisodium citrate.

[...]

XXV. Caloric density [is defined as] the amount of energy, expressed in kilocalories per 100 grams of food, that is obtained by multiplying the kilocalorie content of the food by one hundred and dividing the result by the weight in grams of the serving size.

XXVI. Snacks [are] processed foods made from clean, healthy flours, seeds, tubers, cereals, grains, and fruits, which may be fried, baked, puffed, extruded, or toasted and to which are added salt, other ingredients, and food additives, as well as the clean, healthy seeds that are part of the edible fruit of plants or trees, with or without shells or cuticles, fried, toasted, or baked, and with or without other ingredients or food additives.

XXVII. Confectionary products [refers to] sweets and candies, including caramels, imitation marzipan, flavored or unflavored gelatin, marshmallows, marzipan, dragées/comfits, and nougats, among others.

XXVIII. Chocolate [is] the product obtained through a uniform mixture of variable quantities of cocoa paste, or cocoa butter, or cocoa plus sugars or other sweeteners, with or without optional food additives, whatever its presentation.

XXIX. Cocoa derivatives include cocoa butter, cocoa paste or liquor, and cocoa nibs, among others.

XXIX. Flan [is defined as a] confection made from egg yolks, milk, and sugar, cooked in a water bath or double boiler, within a mold usually caramelized with sugar. Flan also tends to include flour and often contains additional ingredi-

ents, such as coffee, orange, or vanilla, among others.

XXX. Bread pudding [is the confection] made from sponge cake or bread dissolved in milk and to which sugar and dried fruits are added.

XXXI. Fruit and vegetable-derived sweets [refers to] products such as pastes, jams, or marmalades obtained by cooking fruit or vegetable pulp or juice with sweeteners, with or without food additives. This includes crystallized or frozen fruits or vegetables.

XXXII. Peanut butter and hazelnut spreads [refers to] any spread made from peanuts or hazelnuts, toasted and ground, usually salted or sweetened.

XXXIII. Dulce de leche includes, among others, cajeta, jamoncillo, and natillas.

XXXIV. Cereal-based processed foods include all forms of processed food made from cereal grains, whether in the shape of flakes, crisps/clusters, or loops/rings, with or without added fruits or flavoring agents.

XXXV. Ice cream [refers to] any food prepared by freezing and mechanical agitation of a pasteurized mixture made up of a combination of dairy ingredients, which may contain permitted vegetable fats, fruit, egg, egg derivatives, and food additives.

# 08

## Drivers of success and lessons learned

Taking into account the points of view of some of the individuals affiliated with various institutions who collaborated toward the establishment of the tax on sugar-sweetened beverages and the opinions voiced in interviews regarding the interaction between the Executive branch, the Legislative branch, academia, national health institutes, CSOs, international organizations, and the private sector, the following section mentions some of the driving factors of success that may have been integrated into the synergy of epidemiological, socioeconomic, political, intersectoral, and global contexts.

### 8.1 Epidemiological and socioeconomic context

The data are clear: Mexico is the world's oldest consumer of sugar-sweetened beverages. The urgent need to address the obesity epidemic in Mexico cannot be overstated, as data reveal the high incidence of diabetes and diabetes-related problems, such as blindness. This creates health sector spending; however, the problem is not limited to the exorbitant expenditures related to treatment of these diseases, but also concerns a panorama that endangers the economic future of the coun-

try: the population dies at increasingly young ages or is left disabled. As a result, there is enough information available on the social cost and economic impact of obesity and diabetes in Mexico to provide us with tools and demand urgent action.

### 8.2 Political context

The 2013-2018 National Development Plan, presented by President Enrique Peña Nieto, contains the axis *Inclusive Mexico* and the strategy 2.3.2. *To make protection, promotion and prevention actions a core priority for the improvement of health*. Its lines of action prioritize the CNCDs and the prevention and control of overweight, obesity, and diabetes.

The 2013-2018 Health Sector Program also identifies as priorities interventions on CNCDs and their risk factors, as well as implementation of the National Strategy against Overweight, Obesity, and Diabetes, in three of the six objectives, strategies, and lines of action mentioned in chapter III, which includes a specific line item, 1.2.1: *To propose, jointly with the Ministry of Finance and Public Credit, a tax on flavored beverages*.

Within this context, Mexico was enmeshed in a series of structural reforms during the first year of the Peña Nieto administration, in the sectors of education, telecommunications, treasury, finance, energy, and policy. An appropriate context arose and the President, by means of the SHCP, proposed a Treasury Reform that included a tax on sugar-sweetened beverages. Enough political will came together to carry out these reforms, including the treasury reform and the *Pact for Mexico*. The three majority political parties in Congress supported approval of the reforms proposed

by the Executive, which led to the final proposal being promoted by the Presidency and supported by various sectors.

### 8.3 Intersectoral context

Although the previous points played a definitive role in the success of the objective, one of the factors that most stakeholders agreed played a part in this achievement was joint effort and permanent intersectoral coordination. The process was remarkable for its collaborative nature: different actors each played a role, but focused on a common objective. For example, the Executive and Legislative branches worked together; PAHO/WHO shared recommendations, evidence, and experiences, from other countries; academia generated national scientific evidence (data and mathematical models); and civil society mobilized the public opinion and was very active in the communications media. In general, the group took on a proactive attitude and stance from the very start, and remained proactive. It was not cowed into behaving reactively when faced with backlash from the soft drink industry.

### 8.4 Global context

The global Governing Bodies of WHO and PAHO, as well as the Heads of State at the United Nations General Assembly, had approved various political, strategic, and planning documents that provided guidance to the Member States regarding the development of national policies and strategies. All of these documents contained the recommendation to implement regulatory and fiscal policies as the one developed in Mexico. Furthermore,

there is published information on similar experiences in various countries, showing the effectiveness of taxes on sugar-sweetened beverages for reducing demand and increasing fiscal revenue.

### 8.5 Lessons learned

This important achievement was the result of joint efforts on the part of representatives of the SHCP, Ministry of Health, Congress of the Union, academia, civil society, and various international organizations. Hence, part of the lessons learned will be described within the framework of the following spheres:

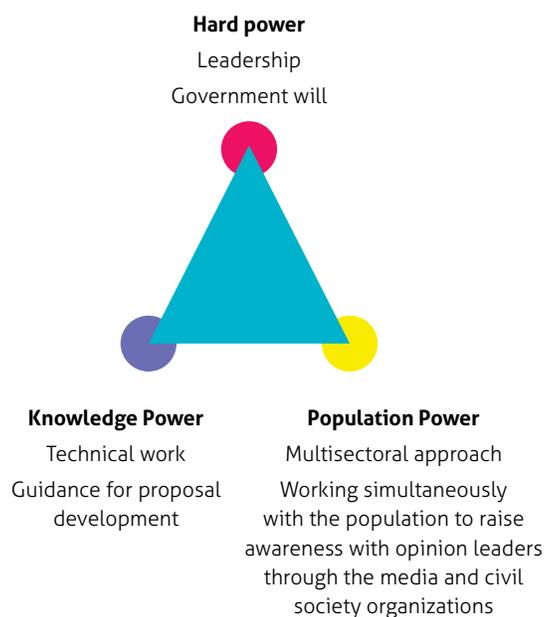
In the first sphere, government leadership occurred on two fronts. First, in the Legislative branch, as the Senate of the Republic spearheaded the initial proposal and worked jointly with civil society, academia, and international organizations, based on local and global scientific evidence; second, when the Executive branch reopened the proposal and incorporated the Initiative as a matter of public finance, but with an impact on public health. The proposal to levy a special tax on sugar-sweetened beverages was part of the Treasury Reform Initiative submitted to Congress. In that respect, i.e., development of the tax, the cooperation among the Ministries of Finance and Health was fluid and continuous, especially regarding the preparation of a situational assessment of obesity and overweight in Mexico to support the public health arguments used to justify the tax.

PAHO/WHO experienced collaboration with other sectors of the Mexican State outside the health sector. Starting from the idea of health in all policies and expanding it to addressing the social determinants of health, PAHO/

WHO offices in all countries must scale their technical cooperation efforts to work with the State as a whole, as well as with the private sector, the communication media, CSOs, research centers, and academia, when they are involved in the construction of health-related public policies.

In the case of the issue to which this publication pertains, cooperation with the Legislative branch, the SHCP, and the Ministry of Health was necessary to facilitate sharing of technical opinions, scientific evidence, and international experience from an epidemiological, public health, fiscal, economic, and political standpoint. PAHO/WHO also played a role of neutral convener and coordinator among several actors, through the development of the intersectoral group, which held periodic meetings, as well as by hosting events and forums with the participation of academia, the research sector, and opinion makers.

Figure 1.



In the second sphere, that of multisectoral and interdisciplinary work, one of the lessons learned was that all actors should sit at the same table and identify a common goal, as points of convergence can be found. Another consisted of the importance of coordinating efforts at several levels, as allies are necessary—no one actor can do everything. One must create a large network of ties, seek a good spokesperson to defend the proposal, and take advantage of the power of academic research to convince and provide arguments. In this task, each actor played its role, but there was an overarching, consensus-built, well-planned, coordinated strategy of permanent collaboration, which encouraged all members to be proactive, not reactive.

It also became clear that it is important to place the subject in the public opinion and understand the power of the media to influence the public. Social networks were used to report and disseminate, but the actors understood it was essential to continuously generate information and “translate it” to the media. Presenting information to the media requires skill; hence, there is a need for the services of traditional and social media experts, as well as constant coordination. Various CSOs in Mexico raised awareness of the adverse effects of sugar-sweetened beverages and the need for action through the use of fiscal measures among the population. These groups tried to create impact on the population with a media strategy that included public demonstrations. By taking the subject to the media, the public’s outlook on the health-disease process was changed and we were even able to achieve support for the tax, which was previously viewed from a negative angle.

In the third sphere, existing information on similar experiences in other countries was essential, as were the technical and political

documents developed by PAHO/WHO, approved by the Governing Bodies of the various world health assemblies, directing councils, and Pan American Sanitary Conferences in which the Member States backed the use of fiscal strategies. Academia and Mexican research institutes conducted epidemiological, social, and economic studies that were published as the scientific evidence that backed arguments and justifications, and proposed fiscal models based on studies of price elasticity of demand and tax regressivity. The SHCP team analyzed these studies and found they showed how a tax with these characteristics would effect a reduction of demand for the target products and a reduction of overweight, obesity, and diabetes rates, as well as the savings it would bring in terms of healthcare expenditures and for household budgets. As a result, the proposed measure would have positive impacts on public health and, in addition, provide an increase in revenue streams.

# 09

## Expected impact

### 9.1 Fiscal revenues

The Report on the Public Finances of Mexico corresponding to the first quarter of 2014 shows that the results obtained at the end of that period were in line with those approved in the economic package for the year. The first results of the treasury reform approved by the Congress of the Union have already come about. In general, nonoil tax revenues, including revenues from income tax and the value added tax (VAT), had a 10.7% real increase. Specifically, the IEPS had an 18.2% real increase in collections, mainly due to expansion of the tax base to flavored beverages and energy-dense non-staple foods (58).

In March 2014, tax revenues exhibited 17.1% real growth as compared to the same month of the previous year (58). Significantly, tax revenues were MXN 24,971 million (US\$1,842,900,000) greater than expected (5.4%), due to greater collection of the VAT on the financial system (which includes income tax, the single-rate business tax, and the tax on cash deposits). Specifically regarding the IEPS, MXN 2,000 million (US\$147,600,000) were collected as a result of the taxes on tobacco products, beer, soft drinks, and energy-dense food (58). These taxes jointly provided revenues of MXN 3,627 million in the first quarter of 2014. In January 2014, additional revenues were recorded as a result of

financial transactions being carried out in advance of the entry into force of the new tax framework (58).

In the second quarter of 2014, the revenue budget was MXN 1,912,211 million (US\$141,122,600,000), a 1.7% real increase in relation to the same period in 2013 (59). The IEPS had a 39.5% real increase per annum, largely due to expansion of the tax to flavored beverages and energy-dense non-staple foods (59). Tax revenues amounted to MXN 54,979 million (US\$4,057,500,000) more than expected (6.2%) as a consequence of the treasury reform measures and of actions taken to improve tax management. IEPS revenues increased by MXN 1,739 million (US\$128,300,000), especially due to taxes on beer and soft drinks, flavored beverages and energy-dense foods (59).

In short:

- The revenue budget for the fourth quarter of 2014 was MXN 3,983,000 million (US\$293,948,000,000), a 0.8% increase in relation to the same period of the previous year.
- Regarding collection of levies included in the IEPS, MXN 124,016,000 million (US\$9,152,472,000,000) were collected from January to December 2014.
- IEPS revenue had a 51.1% real increase, mainly due to expansion of the tax to sugar-sweetened beverages and energy-dense foods, which was reflected during the entire year of 2014.
- Original estimates were that the IEPS tax category would provide nearly MXN 117,959,000 million (US\$8,705,461,000,000). Nevertheless,

this figure was surpassed by MXN 6,058,000 million (US\$447,084,000,000) and MXN 124,016,000 million (US\$9,152,472,000,000) were collected. This increased revenue was largely due to the taxes on beer, flavored beverages, and energy-dense food.

The Strategic Platform against Overweight and Obesity (ContraPESO) analyzed collection of the tax at the end of the fourth quarter of 2014, as shown in Annex 2.

## 9.2 Reduction of the demand for and negative consequences associated with consumption of products subject to the tax

The INSP and the Carolina Population Center of the University of North Carolina at Chapel Hill, USA, conducted a study to estimate the effect of the MXN 1.00/L tax that has been levied on sugar-sweetened beverages since 1 January 2014. (60).<sup>10</sup> The data presented by the INSP, from a consumer panel, provide information on beverage purchases by households of 53 cities across the country with a population of  $\geq 50,000$ . The preliminary results show an approximately 6% reduction in purchases of the dutiable sugar-sweetened beverages as of December 2014, in comparison

<sup>10</sup> The research team includes Dr. Arantxa Colchero Aragonés and Dr. Juan Rivera Dommarco of the National Institute of Public Health (INSP) and Dr. Barry M Popkin and Dr. Shu Wen Ng of the University of North Carolina, who made it clear that these results are preliminary; data are in the final stages of analysis and definitive results will be submitted to a peer-reviewed scientific journal for publication. This study is funded by the Bloomberg Philanthropies and the Robert Wood Johnson Foundation.

with 2013, and a 17% reduction in the bottom income quintile as of December 2014 (60).

The results also reveal an approximately 7% increase in purchases of non-taxed beverages (beverages sweetened with artificial sweeteners, sparkling mineral water, plain water, juices with no added sugars, and milk with no added sugars); within this category, sales of plain mineral water increased nearly 4% during the same period. The purchase of carbonated beverages not covered by the tax (beverages sweetened with artificial sweeteners and sparkling mineral water) and other beverages (milk and juices with no added sugars) did not change statistically significantly (60).

Regarding the preliminary results on the effects of the tax on sugar-sweetened beverages and energy-dense staple foods, the INSP conducted a study that used price data collected by the National Institute of Statistics and Geography (INEGI) between 2011-2014 in areas with a population >20,000 and prices obtained by the INSP in areas with a population <20,000 (61). Preliminary estimates show that prices of sugar-sweetened beverages increased nearly MXN 1.00/L in 2014 as compared with 2013, both in urban and in rural areas. This suggests that the tax was almost entirely transferred to the purchase price (61).

For non-staple energy-dense foods (>275 kcal/100 g), preliminary results show a more heterogeneous price response. In one class of foods (popcorn, snack cakes, chocolates and sweets, potato chips and other snacks, and cereal bars), the price increased almost 8%—the tax rate—or more. That is, in these products, the tax exceeded the consumer price (61). In a second food group—peanuts, breakfast cereals, cookies—prices rose less than 8%, while in a third group made up of a smaller

number of foods—chocolate bars or cocoa powder, sweet buns—prices either remained unchanged or reduced (61).

From these findings, one may deduce that, while for sugar-sweetened beverages as a whole, the tax was almost entirely transferred to the prices of these products, the 8% tax rate was authorized for only some subcategories of non-staple energy-dense foods. The overall result that is expected is a reduction in consumption of sugar-sweetened beverages. There is evidence of elasticity and of an approximately 10% reduction, with sugar-sweetened beverages being replaced by plain water. Although the result considers that the caloric effects are not that noticeable, there may indeed be effects on health, as manifested by occurrence of the metabolic syndrome and its subcategories.<sup>11</sup>

Likewise, the INSP noted that “the taxes on energy-dense beverages and foods could have an effect in both cases, reducing demand and, together, influencing a reduction in excess weight and obesity.” Furthermore, the involvement of civil society, by demanding that drinking water be provided at schools and public spaces, could generate an additional effect to reduce intake of sugar-sweetened beverages.

### 9.3 Installation of drinking fountains at schools and public spaces

Another positive element is included in Transient Provision 6 of the 2014 Revenue Act, which expresses the commitment of the Fed-

<sup>11</sup> Dr. Juan Rivera Dommarco, National Institute of Public Health. Interview. Cuernavaca, Morelos, 25 September 2014. Preliminary results, as cited research.

eral Government to improve access to drinking water in rural areas, schools, and public spaces. On 20 November 2013, a Decree was published enacting the Revenue Act of the Federation for Fiscal Year 2014 and amending the first paragraph of Article 2 of said law, but for Fiscal Year 2013 and the Revenue Act of the Federation for Fiscal Year 2014, Transitory Provision 6 stipulates (62):

The Expense Budget of the Federation for Fiscal Year 2014 should provide for an allocation equivalent to the estimated collection that corresponds to the Federation's share, after discounting the states' shares, by concept of the special tax on production and services levied on flavored beverages, under the terms of Article 1 of the Revenue Act of the Federation for Fiscal Year 2014, to be earmarked for programs to combat malnutrition, for the treatment and prevention of obesity and related chronic degenerative diseases, and to improve access to drinking water in rural areas, schools, and public spaces.

The content of the previous paragraph agrees with article 11 of the Decree which reforms articles 7, 11, and 19 of the General Law for the Physical Infrastructure of Educational Facilities as it applies to School Drinking Fountains: "[...] the presence of drinking fountains in sufficient number providing a constant supply of drinking water must be guaranteed in every educational establishment, in accordance with the guidelines issued by the Ministry of Health in coordination with the Ministry of Public Education" (63). Likewise, Transitory Provision 2 notes: "On the basis of article 19, section I, of the General Law for the Physical Infrastructure of Educational Facilities, the National Institute for the Physical Infrastructure of Edu-

cational Facilities will, no later than 180 days, counted from the day following publication of the present Decree, issue general guidelines for school drinking fountains and quality of drinking water at National Educational System establishments" (63).

# 10

## Conclusions

Science has made it clear that individual and genetic factors come together with family, community, socioeconomic, and environmental factors to become fundamental determinants of overweight and obesity. The individual factors include high intake of beverages containing added sugars and energy-dense foods, low intake of fruits, vegetables, whole grains, legumes, and water, and little physical activity. Family and community factors include the widespread availability and ease of access of unhealthy foods and beverages, the low prices of energy-dense foods, the loss of traditional dietary culture, including cooking practices, poor market infrastructure, limited supplies of drinking water, the lack of accurate and reliable information on a healthy

diet and motivational strategies for its adoption, as well as inadequate access to preventive health services and the poor quality of these services (46).

At the macro level, multiple factors are also involved, such as urbanization, globalization, changes in family dynamics; technological advances in the production and processing of food, work, and recreation; agricultural, commercial, educational, and fiscal policies; inadequate legal and regulatory frameworks State intervention; and poverty and inequity (46).

International recommendations and experiences highlight the need for making the prevention of overweight, obesity, and associat-

ed comorbidities as a national priority, a matter of human rights, and a bioethical issue, given their effects on health and economic development, especially in the most vulnerable populations (46). Within those measures, taxation stands out as a public health tool that helps discourage consumption and has an impact on better health. Although the evidence for the effects of taxes to support health-related matters is recent, in this regard, and in accordance with the published evidence, seven important conclusions can be drawn:

1. Tax rate: According to the current evidence, the tax rate should be at least 20% to maximize its impact on the overweight, obesity, and cardiovascular diseases. Although the approved tax rate was 10%, projections made with this percentage show that there will be a positive impact on the reduction of overweight, obesity, and diabetes.
2. Purpose of the generated revenues: Several investigators conclude that the taxes should be combined with subsidies geared toward support for poor families, e.g., to:
  - a. increase access to and availability of drinking water;
  - b. promote a shift toward consumption of healthy foods and beverages;
  - c. improve health care;
  - d. promote changes in agriculture and industry toward healthy foods and beverages.
3. Comprehensive nature of the tax on sugar-sweetened beverages: Several research projects note the importance of considering shifts in consumption toward unwanted substitutes, which could diminish the desired impact. As a result, the tax must be comprehensive, covering all sugar-sweetened beverages, so as to prevent unhealthy substitutions.
4. Regressive and progressive taxation: Much has been discussed on the subject of the regressive nature of taxes on sugar-sweetened beverages and unhealthy foods. These taxes are regressive for unhealthy consumption, but not for healthier alternatives; in fact, the end result is progressive, because the taxes protect against chronic diseases, which have an impoverishing effect in the long run. Thus, their positive health impact would be most significant in low-income groups. Furthermore, the evidence confirms that these groups are more sensitive to changes in price, which means the taxes will have a greater impact on their habits. Hence, impact should be assessed comprehensively.
5. Type of tax: Experience with taxes on tobacco suggests that establishing a specific tax is more advisable than an ad valorem tax (one calculated as a percentage of the price). A mixed tax (specific and ad valorem) would be ideal. In the case of sugar-sweetened beverages, a tax calculated per gram or milliliter of product would be the most appropriate mechanism, and should be added to the final price so that it can be perceived by the buyer.
6. Impact-boosting measures: It is better for consumers to consider the price of the product with the tax included instead of adding the tax at the time of purchase. It is advisable that the tax systematically adjust for the expected level of inflation.

7. Acceptability: Acceptance by the population is greatest when it understands that the tax is meant to improve its health and well-being.

In Mexico, there was a confluence of epidemiological elements—the problem of obesity was undeniable—and social, economic, and political costs; this circumstance was made particularly pressing within the framework of the government transition, which established the Pact for Mexico for the purpose of approving the necessary structural reforms, including fiscal reform. Given the need for expanding the tax basis, a tax on sugar-sweetened beverages could be included as part of the fiscal package. Simultaneously, and by intersectoral agreement, several sectors of Mexican society were working on the problem, which meant that actions could be strengthened through collaboration under permanent coordination.

As a result of this combined will for change, a special tax of MXN 1.00/L on sugar-sweetened beverages was adopted. This constituted a great achievement, as the tax did not exist before. Furthermore, a strong ideological barrier, which considered soft drinks as part of the basic food basket, was overcome. Additional achievements included the use of influence to earmark the revenues obtained through this to provide drinking water and install drinking fountains at all schools across the country. Furthermore, the National Strategy for the Prevention and Control of Overweight, Obesity, and Diabetes, launched by the President, included regulatory and fiscal measures as its third pillar. Hence, it bears stressing that adoption of the tax is just one of the measures proposed in the National Strategy.

Finally, more time is needed to understand the full impact of these taxes on health. Mexico has taken a great stride forward by

showing leadership and innovation in its National Strategy, which included multisectoral actions and the use of fiscal policies to tackle a public health problem that has negative impacts on the social and economic health of the nation and its population.



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# Annex



# 01

## Arguments advanced by the soft drink industry against the tax during discussion of the Initiative in Congress

### General arguments

1. **The industry is undertaking actions to provide more and clearer information to consumers regarding the nutritional facts of the products. Within this context, the packaging of all sugar-sweetened beverages provides Guideline Daily Amounts (GDA): charts contained in the product labeling that reports calorie, sugar, total fat, and sodium content per container of each beverage, as well as the percentage that these ingredients represent in a 2,000 kcal/day diet.**

### Rebuttal

GDAs, proposed on an international scale by the food industry, are not sufficiently clear; they do not provide guidance to consumers on the content of the product and are confusing (64). According to the study *Revisión del etiquetado frontal: Análisis de las GDA y su comprensión por estudiantes de Nutrición en México*, these guidelines are imprecise because they should distinguish between the content actually contained in the packaging and the serving size so as to determine the amount of calories, fats, sugars, and sodium consumed. If socioeconomic inequalities in the country and knowledge of Mexicans about this topic are taken into account, the population lacks the capacity to carry out the operations needed to understand, use, and interpret front-of-package GDAs (64).

Furthermore, the information presented on soft drink and other beverage containers indicates the caloric contents of sugar and other components as a function of smaller servings, which hinders comprehension of dietary facts (65). Hence, even though the food industry in Mexico is promoting a campaign to facilitate comprehension of nutritional information, they continue to use the same type of front-of-package labeling, which means that the provided information remains ambiguous. To supplement actions geared toward discouraging

consumption of sugar-sweetened beverages, it is recommended that, in addition to taxing these products, their labeling should be regulated to facilitate understanding of nutrition information.

Accordingly, the Centre for Food Policy at City University London pointed out that the development of the food industry is associated with the rise in obesity and CNCDs, which means that health should be a priority in the modern food economy (66).

2. **The industry provides, to its own members and to its consumers, programs and incentives that encourage physical activity, sport, and healthy lifestyles among the population, even in the workplace, by means of corporate social responsibility (CSR) campaigns.**

### Rebuttal

To be successful, physical activity programs must to be accompanied by public policies aimed at the promotion of healthy lifestyles and healthy eating that are adequately able to combat the factors that increase rates of overweight and obesity, such as intake of foods and beverages rich in fat, salt, and sugars—such as soft drinks and sugar-sweetened beverages. Although the industry has reiterated in a number of ways its intention to reduce the number of products it sells, advertising campaigns and serving sizes of energy-dense foods have actually increased (67).

If we allow the industry to self-regulate, this will provide it with the opportunity to sell more products regardless of the harm caused to consumers. The industry will continue to receive backing for its CSR campaigns, by which they attempt to hold people responsible for their own health without being liable for the products they market. At the same time, supported by CSR campaigns, they manage to increase their popularity and that of their products and, thus, avoid regulation. We agree with the Yale University Rudd Center for Food Policy and Obesity's recommendation that the government, civil society, and other institutions should be working toward regulation rather than to boost the sales tactics of the food industry (68) [TN: The Rudd Center has moved to the University of Connecticut and is no longer affiliated with Yale].

As was done with the tobacco industry, in the case of the tax on sugar-sweetened beverages, public health workers should fight the CSR campaigns of the soft drink industry and educate society and decision-makers as to the effects of such campaigns and of soft drinks, as well as with regard to the diseases caused by consumption of these beverages (67). Accordingly, CSR should be understood as a public relations strategy that is meant to demonstrate the innocence and good intentions of the companies, which undertake these practices to improve their public image and protect their economic interests. Unlike the tobacco industry, soft drink manufacturers use CSR aggressively and with the specific purpose of increase their revenue. They respond to the claims of public health stakeholders while generating brand loyalty among children and youths. On various occasions, the CSR activities of these com-

panies are mere marketing ploys and have no philanthropic purpose whatsoever, as more is spent on advertising than on the actual social campaigns.

## Economic arguments

- 1. The tax would increase the price of the products, which would entail a reduction in demand and, consequently, in sales; this, in turn, would affect employment in Mexico.**

### Rebuttal

The tax on sugar-sweetened beverages will facilitate the adoption of healthier consumption habits and will provide new marketing opportunities for the industry, which can diversify its product ranges and offer healthier products, without a high sugar, salt, or fat content. This opportunity will arise because the tax reorients consumers away from unhealthy products and toward healthy ones. Many industries have recognized that they can offer more than 40 products, including drinking water and other nutritious beverages, which means their supply would not be affected; in fact, they could even increase demand for these other products.

We recognize that the beverage industry is one of the largest job creators in the country, as is the case of Coca-Cola, which created more than 93,000 direct and 800,000 indirect jobs in 2011 alone (69). Nevertheless, the purpose of the tax is not to affect the industry, but to reduce the rates of obesity and overweight and of the chronic diseases related to these conditions, which increase with consumption of foods and beverages with high energy, sugar, and fat content.

Although the expected reduction in soft drink consumption induced by a tax could have a negative impact on direct jobs within the industry, this impact will not be nearly as great as estimated by the industry, and any lost jobs are likely to be transferred to other sectors. This “job transfer” would be derived, on the one hand, from the increase in consumption of substitute beverages and foods and, on the other, by investments that could be made using the revenue collected through the new tax. Estimates show that if the price of soft drinks were increased in Mexico, people would replace these beverages with water or milk in such a way that would increase the number of jobs by increasing the demand for healthy products (2). If, for instance, the tax money collection were invested to provide drinking water in schools and other venues, this would entail massive investments in infrastructure and, consequently, an increased number of jobs.

Some research projects reveal that, as in the case of tobacco taxes, a tax on sugar-sweetened beverages not only would not produce any significant direct job losses, but would support a net increase in jobs (70). The evidence from developed and developing countries that have implemented tobacco taxes shows that the reduction in employment in this sector can be compensated, and even exceeded, by new jobs generated in other activities through consumption

of other goods and services acquired with money that was previously spent on tobacco (71). In the United States, a study that analyzed the effect of the tobacco tax and smoke-free indoor space policies found that a 10% increase in the cigarette tax was associated with a 0.19% increase in the number of businesses (72). Although the correlation is weak, this study also found that no reduction in the number of businesses occurred and, accordingly, no jobs were lost. This finding is partly explained by the fact that tobacco prices increased by more than the tax rate, which resulted in greater economic gains for retailers.

Companies can also make their products and beverages healthier and thus contribute to a reduction in the rates of overweight and obesity. As the Bank of America Merrill Lynch Global Research report *Globesity—The Global Fight Against Obesity* states, growing obesity rates create a massive investment opportunity for companies. In the case of the beverage industry, this will represent a new market niche, since, as noted above, they could take advantage of the situation to engage in the manufacture and distribution of healthier products, aligned with local health regulations and with customer demands— both of which are increasingly biased in favor of healthier products. Similarly, nutritious, low-sugar, and low-fat products are a major opportunity for investment, as 50% of the population in the Western world currently diets (73).

As has been demonstrated in other countries and described above, any possible loss of jobs in the soft drink industry could be compensated by job creation in other sectors. From the standpoint of social and economic welfare, it has been estimated that a reduction in soft drink consumption in Mexico could save at least MXN 12 billion (US\$885,600,000) by preventing new cases of overweight and obesity (2).

**2. The tax is regressive and will affect all Mexicans, especially those with fewer resources, for whom soft drinks are often a staple product.**

**Rebuttal**

The tax would not be regressive. As demonstrated by analyses carried out to estimate price elasticity of demand for soft drinks using data from national surveys —*Encuesta Nacional de Ingreso y Gasto de los Hogares* (ENIGH, National Household Income and Expenditure Survey) 2006, 2008, and 2010, and *Encuestas sobre Niveles de Vida e Ingreso de los Hogares* (Living Standards and Household Income Survey) 2002 and 2005— show that the bottom income third of the population would significantly reduce its consumption of such products. In this segment of the population, price elasticity of demand for soft drinks was estimated at 1.2, i.e., a 10% increase in soft drink prices would lead the poorest third of the population to reduce its consumption by 12%, a reduction that is more than proportional to the price increase (2). In simulations carried out using the aforementioned country-specific databases, a tax on soft drinks would lead to a reduced proportion of expenditures in the bottom income third. Ac-

According to the 2010 ENIGH, 46% of poorer families report spending on soft drinks, versus 68% of the wealthiest families.

Overweight and obesity are inherently regressive conditions, because they affect low-income people and vulnerable groups disproportionately (68). The poorest communities are those most vulnerable to the suffering caused by overweight and obesity. The complications caused by these illnesses often lead to a need for dialysis, a medical procedure that, in Mexico, costs MXN 3,000 (US\$221.40) to MXN 5,000 (US\$369.00) per month—which represents nearly twice the national minimum wage of approximately MXN 60.6 (US\$4.47)/day or MXN 1,800 (US\$132.80)/month. In this regard, a fiscal measure such as the soft drink tax would effectively help protect the quality of life of lower-income families in the country, as well as protect their economic and social development. As they are more sensitive to price changes, these families would have more incentives to seek substitutes such as water, increased intake of which has positive effects on health, including prevention of chronic degenerative diseases such as diabetes. The State, in turn, would have more resources to provide drinking water to the most marginalized communities. Thus, the tax would create win-win situations (68).

Sugar-sweetened beverages are not a necessary part of anyone's daily diet. Besides, alternatives such as plain water are available at little or no additional cost. Switching from soft drinks to water would improve the health of the poorest population and reduce its spending on sugar-sweetened beverages, which do not contribute any type of nutrient. The industry notes that it has developed new products and expanded its offerings with low-calorie or calorie-free beverages; indeed, Mexico is also the world's leading consumer of bottled water (74), which is a red flag of the lack of availability of drinking water in public spaces, especially schools and marginalized communities.

A 20% per liter tax (MXN 1.7; US\$0.12) would help reduce intake of these products and provide a revenue stream of nearly MXN 22,861.7 million (US\$1,687,200,000), which would allow the government to install drinking fountains in schools and public spaces and implement programs against obesity and overweight (2). Furthermore, it would help reduce the prevalence of diabetes in the country by 12%, reduce the costs of new cases of diabetes by 26% over the next 10 years, and cut direct expenditures on medical care for obesity-related diseases from MXN 42,000 million (US\$3,099,600,000) in 2008 to nearly MXN 35,000 million (US\$2,583,000,000). The cost of treating obesity in adults during the next 10 years would also decrease by 3%.

The tax would not have a disproportionate financial burden on lower-income families because soft drink consumption is similar across different social groups; thus, consumption would decrease in the same proportion. Furthermore, according to a study by the Research Institute of Child Nutrition, Dortmund, in this German city, installing drinking fountains in elementary schools to increase access to water led to a 31% reduction in the risk of overweight (26).

**3. The tax will increase the informal market for foods and beverages in Mexico and will be useless to tackle the problem of overweight and obesity.**

**Rebuttal**

Coping with informal trade is the purview of other government initiatives, especially economic and labor-related ones; it bears no relation to the initiative to raise taxes on sugar-sweetened beverages. Furthermore, a comprehensive strategy against obesity is required to control growing rates of this illness and to encourage healthier consumption patterns and lifestyles. This means that foods that do not provide nutrients and are not part of the basic food basket, as is the case of sugar-sweetened beverages, should be regulated.

The informal market develops as a result of the lack of point-of-sale measures and controls (as in the case of cigarettes). The solution is to control and sanction points of sale of food and beverages through agreements between the SHCP, the Federal Commission against Health Risks (COFEPRIS), governments, and local authorities. In the case of the special tax on tobacco products in Mexico, the informal market grew 4 to 7%; at the international level, 8% is regarded as a level acceptable by country authorities (75). We emphasize that this factor is related to fiscal measures and controls.

**4. Taxes do not help reduce consumption.**

**Rebuttal**

One of the core objectives of the soft drink tax is to reduce consumption of these products, which are associated with an increase in rates of overweight and obesity. If we consider that the demand for refreshment in Mexico is elastic, taxes are tools that can be used to discourage consumption of these products and strengthen the country's revenue streams. A tax rate of 20% per liter (MXN 1.7) would help reduce consumption of these products from 163.3 L to 120.9 L per capita per year (2).

The special tax on tobacco products efficiently reduced demand for these products and increased tax revenue. The report on collections from the IEPS tax on tobacco products during the first semester of 2012, presented on 23 August 2012, mentioned that, during the first semester of this year alone, MXN 46,891 million (US\$3,460,600,000) were collected, versus MXN 31,343 million (US\$2,313,100,000) during the entire year of 2011 (75). Regarding demand, during the first 5 months of 2012, legal consumption of cigarettes in Mexico declined by 14 million packs, a 3% reduction as compared to the same period in 2010 (2).

According to the Health Policy Center of the University of Illinois at Chicago (69), taxes on soft drinks/sugar-sweetened beverages are similar to taxes on tobacco: neither of these products is a necessary good; both cause considerable damage to the health of the population; both have negative economic consequences for health systems—by increasing the amount of

resources necessary for the care of diseases related to their consumption—and consumption of both starts at an early age, when buyers are not well aware of the negative effects of their consumption.

**5. The tax focuses indiscriminately on soft drinks, as the problem of overweight and obesity is much more complex.**

**Rebuttal**

The problem of overweight and obesity in Mexico is indeed complex; however, diet is one of the key factors involved. In this regard, consumption of sugar-sweetened beverages is associated with these conditions, which cause various chronic diseases, such as diabetes and cancer; furthermore, the costs involved in treatment of these maladies threaten the sustainability of the country's public health system. Hence, one of the most interesting results of this tax is that the resources obtained will be allocated to promote campaigns, programs, and policies that encourage healthier consumption habits and healthier lifestyles, so as to reduce the rates of overweight and obesity in Mexico.

Indeed, this complex problem should attract the interest of the food industry in order to protect the nutritional and dietary quality of its own consumers, who, when they develop chronic diseases such as diabetes, cancer, and hypertension, are forced to stop consuming products rich in calories, sugars, and fats. Furthermore, according to the Massachusetts Institute of Technology, a 500-ml serving of soft drink contains 220 kcal—less than the same amount of milk, which contains 330 kcal; however, the latter provides calcium, magnesium, and vitamin A and D, among other nutrients, while soft drinks do not contribute any nutrients whatsoever, but contain 60 g or 12 tablespoons of sugar (76). Notably, manufacturing 1 L of soft drink requires approximately 2.7 L of water (77), which means that a tax on these products would help reduce water consumption for industrial purposes and make it available for human consumption instead through infrastructure projects and increased access to drinking water.

**6. The tax will hurt sugar producers in Mexico.**

**Rebuttal**

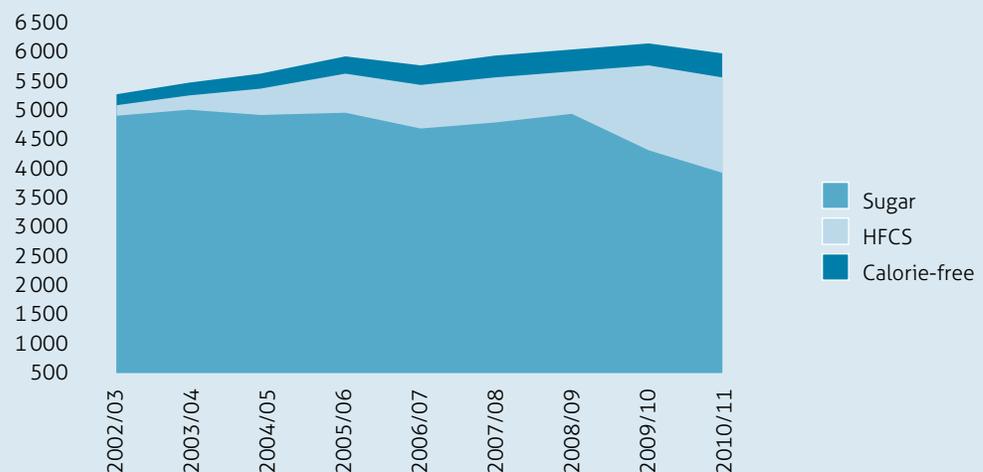
This tax will not affect consumption of standard cane sugar, because it will not be based on the sugar content of these beverages, which, in addition, often contain other types of sweeteners altogether, such as syrups, fructose, and sucrose. According to data from the Chamber of the Sugar and Alcohol Industry, this sector generates 450,000 direct jobs in 15 states and 227 rural municipalities across Mexico, which are home to 12 million people, and thus represents a benefit for the population that lives in these communities. Neither is the tax intended to affect the sugar industry, because the resources it provides will benefit the general population, including people employed in this sector, as they will be used to improve the

health services related to overweight and obesity. These, in turn, will work in favor of the lower-income population, which invests a greater proportion of its income on purchasing sugar-sweetened beverages.

Although the demand for sugar could decline due to reduced consumption of soft drinks as an effect of the tax, any such effect would be marginal, because this is not the greatest problem faced by the industry. Instead, one of the more significant challenges faced by this sector is the replacement of sugar by HFCS, which is currently used in the production of many soft drinks. The following figure shows that a reduction in sugar consumption has already been occurring since 2002, and since 2008 in particular, which contrasts with an increase in HFCS and calorie-free sweeteners in Mexico. Given the global trend of eliminating cane sugar from the soft drink manufacturing process, it is advisable that Mexico seek alternative uses for sugar, such as fuels (in Brazil, 34% of the sugar output is destined for fuel production), or to increase exports so as not to affect jobs in this industry.

Small-business jobs are unlikely to be lost, because these businesses are usually not devoted exclusively to the sale of soft drinks. Small businesses sell foods and other beverages, and, if soft drink consumption declines, they can shift to selling alternatives such as water and milk. Furthermore, the largest soft drink distributors in the country have made major investments toward diversifying their market, such as including milk in their product ranges, as already done with juices and water in the past (78).

**Figura 2.**  
Sugar, high-fructose corn syrup (HFCS), and calorie-free sweetener consumption in Mexico.  
2002-2011



SOURCE: National Balance of Sweeteners, with preliminary information on fructose for September. For calorie-free sweeteners, preliminary estimates of the General Foreign Trade Directorate were used.

- 7. A tax on this product type would represent an additional charge, as soft drinks are the only product in the basic food and non-alcoholic beverage basket on which VAT is levied, and this collection already amounts to 47% of direct expenditures on the care of diseases related to overweight and obesity, according to Ministry of Health calculations.**

### Rebuttal

First of all, the basic food basket should not include foods and products that are hazardous to the health and development of the population. Soft drinks are not staple beverages, as they contribute no nutrients whatsoever, only empty calories. Specifically, one should consider the fact that, in rural and marginalized areas of the country, soft drinks are the main energy source, and state that no food policy could possibly be based on soft drinks, which do not contribute any type of dietary benefit.

Soft drinks are indeed the only product on the basic food basket on which VAT is levied, for the simple reason that they are not a food. The reduction in soft drink sales will not reduce fiscal revenues from the VAT significantly, because, although consumption has already declined by 25%, sales of the remaining 75% with the new tax would not only make up the difference but also produce more benefits than any loss of this small fraction. Hence, the new tax increases fiscal revenue while improving the health of Mexicans and reducing health expenditures associated with diabetes and other chronic diseases.

- 8. An isolated tax works against a comprehensive fiscal reform.**

### Rebuttal

The tax on soft drinks attempts to address one of the main risk factors for overweight and obesity. In this regard, the Initiative does not propose tax as the only action; in fact, it has recognized that the public health problem that obesity represents for Mexico should be tackled through multisectoral rather than isolated policies. The Initiative is just one of many others that should be adopted with a view to reducing the high rates of this condition. The proposal should be accompanied by implementation and strengthening of cultural and educational strategies, public and regulatory policies. Several educational measures are needed to inform people and raise awareness of the causes and consequences of this illness. Nevertheless, the results obtained by these measures will be reflected in the middle- and long-term, while the tax is a rapidly implemented measure.

Taking as an example the case of tobacco, regarding demand, during the first 5 months of 2012, legal cigarette consumption in Mexico declined by 14 million packs, which represents a significant reduction of 3% as compared to the same period in 2010 (75). From such examples, one may infer that regulatory and fiscal measures can efficiently reduce consumption of products that are harmful for consumer health and are not necessary for a proper diet or for one's development and growth.

The proposed tax on soft drinks is not an isolated effort. The government has implemented other measures to reduce consumption of these beverages and improve the diet of Mexicans, such as regulation of foods and beverages served at schools, reduced fat levels in Diconsa milk, and modification of school breakfasts within the National System for Integrated Family Development.

Currently, the Ministry of Health continues to work on implementing front-of-package labeling for processed foods in such a way that the information presented on labels is regulated to ensure adequate reporting and help the population make healthier decisions when choosing products to buy. Meanwhile, we know that a group of food sector industries has already implemented a misleading frontal labeling scheme, which, rather than guiding consumers, confuses them (79).

- 9. There is no evidence that such a tax, in the few countries where one has been implemented, has helped tackle obesity. On the other hand, there are examples of countries that have repealed these taxes for failing to meet their objective or even for having undesirable consequences.**

### Rebuttal

A review of studies that included 19 nations which have established taxes on soft drinks shows they are an effective measure to reduce consumption and overweight in countries where the prevalence of obesity and consumption of sugar-sweetened beverages are high (80). Another study states that taxes on soft drinks can achieve significant reductions in consumption and improvements in health, particularly when the tax rate is at least 20% (28). This evidence supports the notion that, in a country such as Mexico, which has a prevalence of overweight and obesity of over 70%, a diabetes prevalence of 18%, and a massive per capita soft drink intake of 163 L per year, a tax rate of at least 20% can have positive effects on health and yield major economic savings.

The international experience has shown that taxes on soft drinks modify the consumption patterns of the population toward healthier alternatives, such as plain water, and effectively reduce overweight. Countries that have already implemented taxes on soft drinks include Algeria, France, Finland, Greece, and Hungary, and countries that are planning to apply similar taxes include Belgium, Israel, Italy, Romania, the United Kingdom, and the United States.

Denmark is one case of a country that repealed a tax levied on food rich in calories, sugar, and saturated fats, i.e., the tax did not apply exclusively to soft drinks. This measure was implemented as a strategy to minimize the substantial and growing economic impact to the public health services caused by obesity. The argument to eliminate the tax stated that citizens simply crossed the border over to Germany in order to purchase these foods. An analysis of this situation revealed that Danes crossed the border because German products are considered less expensive, not because the tax was unnecessary or not useful for diminish-

ing energy-dense food consumption. This circumstance does not correspond to the Mexican case, since crossing the border toward other countries is expensive and difficult for ordinary Mexicans, especially for the purpose of buying foods and products that are not essential for one's diet.

## Social arguments

- 1. People should be responsible for adopting healthier lifestyles, and the government cannot impose on citizens what one should eat or buy.**

### Rebuttal

The Mexican Council of the Consumer Products Industry (ConMéxico) has noted that “people are responsible for adopting a healthy lifestyle” (81); however, the media and information campaigns have not had the desired success in encouraging healthy life habits, which has been a decision of consumers themselves. Hence, the goal is to address the severe situation of obesity in Mexico by means of public policies designed to reduce intake of foods and beverages that do not contribute nutrients and are rich in sugars and fats.

The Mexican government is very involved in what we eat; hence, it has taken charge of setting various tactics in motion, from agricultural subsidies to nutritional standards in schools. Government interventions on the health sector have been used to improve and promote public health. Such is the case with taxes on alcoholic beverages and tobacco. A good idea to help citizens consume less sugar-sweetened beverages would be for the government to lower taxes on staple foods, because beverages with added sugar are not essential for one's daily diet (68). As we have mentioned on many occasions, obesity and overweight are very expensive to the country, not only because 8 out of 10 deaths in Mexico are caused by CNCDs related to these illnesses (37), but also due to the growing expenditure that this situation represents for the public health system. Thus, the need for regulation of risk factors that threaten the sustainability of health among the Mexican population.

The total cost of overweight and obesity in Mexico doubled between 2000 and 2008, from MXN 35,429 million (US\$2,614,700,000) to at least MXN 67,345 million (US\$4,970,100,000). Said expenditure is expected to rise to MXN 150,860 million (US\$11,113,600,000) by 2017—which corresponds to five times the endowment of the National Autonomous University of Mexico (UNAM) for 2012 (MXN 32,000 million US\$2,361,600,000) (40). The indirect cost related to loss of productivity due to premature death caused by obesity was MXN 25,000 million (US\$1,845,000,000) in 2008, a figure that has exhibited an annual growth of 13.51%. If this problem is not addressed through public programs and policies for prevention and reduction of obesogenic factors, the cost is expected to reach MXN 73,000 million (US\$5,387,500,000) in 2017, which amounts to the GDP of states such as Nayarit or Colima. This situation will affect approximately 68,000 families per year (40).

## Medical arguments

- 1. Not all people who drink soft drinks or sugar-sweetened beverages suffer from overweight, obesity, or other related diseases.**

### Rebuttal

The purpose of the tax is not to generalize or to claim that all people who consume sugar-sweetened beverages suffer from overweight or obesity; instead, it seeks to promote balanced consumption habits in the population. Between 2000 and 2009, the rate of diagnosed diabetes cases increased substantially. The industry points out that, despite this evidence, the per capita rate of caloric soft drink consumption grew only 1.8% (82). However, there is scientific evidence of the relationship between consumption of these products and overweight and obesity, as well as with other related diseases.

According to the article “Ounces of Prevention—The Public Policy Case for Taxes on Sugared Beverages”, published in the *New England Journal of Medicine*, for each extra serving (equivalent to 227 ml) of sugar-sweetened beverage consumed per day, the likelihood of a child’s becoming obese increases by 60%; the likelihood of suffering diabetes and other diseases associated with overweight also rises (83). In women, consuming a single daily serving of a sugar-sweetened beverage increases the risk of heart disease by 23%; in those who consume two servings a day or more, the excess risk may be as high as 35% or greater (83).

The INSP Center for Health and Nutrition Research holds that the increase in soft drink consumption has increased the number of cases of diabetes and early obesity in Mexican children and young adults, because these beverages are made with sucrose, glucose, and fructose, substances that affect the pancreas and easily reach the blood, from where they are incorporated into tissues and converted to fat (36). Likewise, according to the Yale University’s Prevention Research Center, excess sugar intake can be harmful in any of its forms, as these substances provide only empty calories, which contribute to weight gain, hormonal imbalances, insulin resistance, and diabetes (36).

- 2. Sedentary lifestyles, not soft drinks, are the true cause of overweight and obesity.**

### Rebuttal

Several different risk factors affect development of overweight/obesity and related diseases. Diet and sedentary lifestyles are among the environmental factors. Diet is probably the factor that most influences weight change, as growing consumption of industrialized and energy-dense foods, including soft drinks and sugar-sweetened beverages, has led to increased calorie consumption (84). The increase in intake of these beverages across all ages and ethnic groups is associated with increasing incidence of the metabolic syndrome and of insulin re-

sistance, which causes diabetes, among other diseases such as hypertension, dyslipidemia, and fatty liver (85).

The increase in prevalence of this disease, which has certainly reached epidemic levels on a worldwide scale, is closely related to the rising trend of the hypercaloric, high-fat, sugar-rich food intake, including soft drinks and sugar-sweetened beverages, which, as we have analyzed, contain little in the way of vitamins, minerals, and other micronutrients (86). According to the study “Impact of change in sweetened caloric beverage consumption on energy intake among children and adolescents”, by the U.S. National Center for Biotechnology Information, [TN: This study was conducted by investigators at the Columbia Mailman School of Public Health and Harvard School of Public Health, using data from the National Center for Health Statistics, not the NCBI. The confusion may be due to its retrieval from PubMed, an NCBI database.] replacement of sugar-sweetened beverages with healthier alternatives is associated with reduced calorie intake. A 230-mL serving of a sugar-sweetened beverage provides 106 kcal, while the same amount of water only provides 8 kcal. The study concludes that replacing sugar-sweetened beverages with water could help reduce caloric intake by 235 kcal/day (25).

- 3. The caloric content of one’s overall diet, not of a single product, is the relevant factor for calorie intake. Taxation of a single product will not inhibit its replacement by other products of equal or greater caloric content.**

### Rebuttal

The tax seeks to reduce consumption of soft drinks through the regular intake of other beverages, such as drinking water. Hence, the Initiative intends that the resources obtained be invested in preventive health programs and policies, and in increasing access and availability of drinking water in public settings, such as schools, and rural areas of the country. Estimates of price elasticity of demand for soft drinks, according to data provided by the ENIGH, show that, when soft drink prices rise, consumers replace these beverages with water and milk. The evidence does not show substitution with other sugar-sweetened beverages, such as juices or flavored waters (2).

The ideal replacement—with plain water—would be very positive, because water has no calories and its intake is highly advisable. Although milk has calories, this beverage could not replace 100% of soft drink intake. Analyses show that, if the price of soft drinks rises 10%, milk consumption will increase by 16%. Furthermore, milk has several proven nutritional advantages over soft drinks, as described below (87, 88). First, milk has actual nutritional content—minerals, proteins, and vitamins—that is particularly useful to children. Second, it is known that consumption of sugar-sweetened beverages, especially soft drinks, is associated with a high risk of diabetes, and third, it is known that soft drinks have a very low satiety index, lower than that of milk, which means that children would be expected to feel full after drinking smaller quantities of milk as compared with soft drinks.



# 02

## Analysis of tax revenue at the end of the fourth quarter of 2014



### Report on advances in the collection of the special tax on production and services (IEPS) on soft drinks and sugar-sweetened beverages, 4th quarter, 2014<sup>12</sup>

February 2015

#### Subject

2014 Fourth-Quarter Report on the Economic Situation, Public Finance, and Public Debt for the first quarter (Q1) of 2014 regarding the collection of the Special Tax on Production and Services (IEPS) on sugar-sweetened beverages.

#### Background

- In early February 2015, President Enrique Peña Nieto, through the Ministry of Finance and Public Credit, issued the Report on the Economic Situation, Public Finance, and Public Debt corresponding to the fourth quarter of 2014.
- The published information included data on tax collection in the four quarters of 2014 (i.e., the annual period of collection).

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<sup>12</sup> A project of the Strategic Platform against Overweight and Obesity (ContraPESO)  
Tel. 52.02.31.07 | [www.contrapeso.org](http://www.contrapeso.org) | [www.obesidadenlamira.mx](http://www.obesidadenlamira.mx) | [@obesidadenmira](https://twitter.com/obesidadenmira)

### Analysis

- Budget revenue for the Q4 2014 was \$3.983 billion pesos, representing a 0.8% increase in comparison with the same period of the previous year.
- Regarding the taxes included within the Special Tax on Production and Services (IEPS), \$124.016 billion pesos were collected from January to December 2014.
- IEPS revenue increased by 51.1% in real terms, largely due to expansion of the tax base to include sugar-sweetened beverages, energy-dense foods, and coal, a situation reflected throughout the year 2014.
- Original estimates placed IEPS collection at nearly \$117.959 billion pesos. However, this figure was surpassed by \$6.058 billion pesos, for a total of \$124.016 billion. This increase in collection was largely due to taxes on beer, flavored beverages, and energy-dense foods.
- The following data concern the approved and committed budget for the fiscal period 2014:

**Table 1.**

2014 BUDGET EARMARK	BUDGET APPROVED IN CONGRESS	SHCP AUTHORIZED BUDGET	COMMITTED BUDGET (2014 PERIOD)
Prevention of obesity	\$312,120,136	\$312,120,136 (100% of approved)	\$312,120,136 (100% of authorized)
Care of girls, boys, and adolescents in the prevention of obesity	\$14,000,000	\$8,868,515 (63.35% of approved)	\$8,868,515 (63.35% of authorized)

- Estimates regarding Q4 collections of the IEPS on sugar-sweetened beverages and energy-dense foods:

**Table 2.**

IEPS	Food	SUGAR-SWEETENED BEVERAGES
Estimated 1st quarter	\$907,000,000	\$2,117,900,000
Collected 1st quarter	\$2,335,900,000	\$2,322,700,000
Estimated 2nd quarter	\$1,505,400,000	\$3,628,200,000
Collected 2nd quarter	\$3,510,700,000	\$4,909,000,000
Estimated 3rd quarter	\$1,608,600,000	\$3,479,500,000
Collected 3rd quarter	\$3,761,000,000	\$5,833,800,000
Estimated 4th quarter	\$1,579,000,000	\$3,174,400,000
Collected 4th quarter	\$3,656,900,000	\$5,189,400,000
Estimated 2014 (Expenditure Budget)	\$5,600,000,000	\$12,400,000,000
Collected 2014	\$13,284,500,000	\$18,254,900,000

- Taking as reference the revenue from the four quarters of 2014, regarding the IEPS on sugar-sweetened beverages, collections surpassed the estimated revenue for the entire year by 147,22%.
  - a. A similar situation was observed for the IEPS on energy-dense foods: collection for the four quarters of 2014 surpassed the estimated collection for the entire year by 237,22%.

**Table 3.**  
Public sector revenue budget.

2014

(Cumulative figures in million pesos)

CONCEPT	BUDGET	OBSERVED <sup>P</sup> - /			ADVANCE %		
	ANUAL	OCT	NOV	DEC	OCT	NOV	DEC
<b>Total</b>	<b>3,816,747.7</b>	<b>3,183,291.1</b>	<b>3,542,940.0</b>	<b>3,983,411.7</b>	<b>83.4</b>	<b>92.8</b>	<b>104.4</b>
<b>Oil <sup>1</sup> - /</b>	<b>1,265,725.0</b>	<b>1,009,300.9</b>	<b>1,099,380.6</b>	<b>1,213,347.8</b>	<b>79.7</b>	<b>86.9</b>	<b>95.9</b>
Federal Government	803,367.5	674,082.9	724,353.9	772,713.9	83.9	90.2	96.2
Rights and Uses	785,383.3	690,950.1	739,169.6	780,414.4	88.0	94.1	99.4
IEPS	16,483.0	-21,280.6	-19,344.4	-12,369.3	n.s.	n.s.	n.s.
Article 2A Fracción I	-4,283.0	-41,936.7	-42,199.9	-37,210.5	n.s.	n.s.	n.s.
Article 2A Fracción II <sup>2</sup> - /	20,766.0	20,656.1	22,855.5	24,841.2	99.5	110.1	119.6
Oil revenue tax	1,501.2	4,413.4	4,528.7	4,668.7	294.0	301.7	311.0
Pemex	462,357.5	335,218.1	375,026.7	440,634.0	72.5	81.1	95.3
<b>Nonoil</b>	<b>2,551,022.7</b>	<b>2,173,990.2</b>	<b>2,443,559.4</b>	<b>2,770,063.9</b>	<b>85.2</b>	<b>95.8</b>	<b>108.6</b>
Federal Government	1,906,593.6	1,663,259.6	1,852,670.3	2,115,345.7	87.2	97.2	110.9
Fiscal	1,752,178.8	1,509,492.7	1,651,258.9	1,815,514.3	86.1	94.2	103.6
ISR, IETU and IDE <sup>3</sup> - /	970,753.4	797,496.0	869,563.8	959,876.9	82.2	89.6	98.9
Income tax	1,006,376.9	820,004.5	893,910.1	986,601.5	81.5	88.8	98.0
Asset tax	0.0	-754.5	-740.9	-735.5	n.s.	n.s.	n.s.
Single-rate business tax <sup>3</sup> - /	-35,623.5	-10,363.4	-11,790.7	-13,667.2	n.s.	n.s.	n.s.
Tax on deposits <sup>3</sup> - /	0.0	-11,390.7	-11,814.7	-12,322.0	n.s.	n.s.	n.s.
Value-added tax	609,392.5	556,021.9	609,447.4	667,085.1	91.2	100.0	109.5
Production and services	117,958.6	103,526.8	113,597.7	124,016.1	87.8	96.3	105.1
Tobacco products	37,208.4	28,979.6	31,416.4	34,496.0	77.9	84.4	92.7
Alcoholic beverages	11,714.2	9,434.9	10,317.9	11,340.0	80.5	88.1	96.8
Beer	25,037.8	23,206.6	25,371.9	27,590.6	92.7	101.3	110.2
Gambling and drawings	3,012.2	1,921.4	2,097.2	2,302.1	63.8	69.6	76.4

CONCEPT	BUDGET	OBSERVED <sup>P- /</sup>			ADVANCE %		
	ANUAL	OCT	NOV	DEC	OCT	NOV	DEC
Public telecommunications networks	8,081.0	6,070.7	6,666.6	7,217.4	75.1	82.5	89.3
Energy drinks	25.6	18.5	19.6	20.3	78.3	83.1	86.0
Flavored beverages	12,455.0	14,956.3	16,677.7	18,254.9	120.1	133.9	146.6
Non-staple energy-dense foods	5,600.0	10,761.0	11,986.2	13,284.5	192.2	214.0	237.2
Pesticides	184.7	245.9	282.1	313.7	133.1	152.7	169.8

<sup>P- /</sup> Preliminary figures

n.s: Insignificant: - or - greater than 500 percent

<sup>1- /</sup> Corresponds to the revenue collected by the Federal Government for rights on the extraction of oil, utilization of Pemex surplus revenue, and IEPS on gasoline and diesel, as well as the characteristic income of Pemex. Differs from the oil revenues reported in the Annex table "Public Sector Revenue (oil and nonoil activity)", which, in addition includes the VAT on gasoline and Pemex import duties.

<sup>2- /</sup> Refers to the resources from the surcharge on gasoline and diesel in accordance with Article 2A Section II of the Special Tax on Production and Services Act.

<sup>3- /</sup> The single-rate business tax and the cash deposits tax were repealed in January 2014.

**Table 4.**  
**Public sector revenue**

January-December 2014  
(Million Pesos)

CONCEPT	PROGRAM <sup>1-</sup> /	PRELIMINARY	ABSOLUTE DIFFERENCE
<b>Total</b>	<b>3,816,747.8</b>	<b>3,983,411.6</b>	<b>166,663.8</b>
Federal Government Revenue	2,709,961.1	2,888,059.6	178,098.5
Fiscal	1,770,163.0	1,807,813.7	37,650.7
Income Taxes	1,006,376.9	986,601.5	-19,775.4
Value-added tax	609,392.5	667,085.1	57,692.6
Special Tax on Production and Services	134,441.6	111,646.8	-22,794.8
Gasoline IEPS	16,483.0	-12,369.3	-28,852.3
Article 2A Section I	-4,283.0	-37,210.5	-32,927.5
Article 2A Section II	20,766.0	24,841.2	4,075.2
Tobacco Products	37,208.4	34,496.0	-2,712.4
Alcoholic Beverages	11,714.2	11,340.0	-374.2
Beer	25,037.8	27,590.6	2,552.8
Gambling and drawings	3,012.2	2,302.1	-710.1
Telecommunications	8,081.0	7,217.4	-863.6
Energy Drinks	23.6	20.3	-3.3
Flavored Beverages	12,455.0	18,254.9	5,799.9
Non-Staple Energy-Dense Foods	5,600.0	13,284.5	7,684.5
Pesticides	184.7	313.7	129.0
Fossil Fuels	14,641.7	9,196.6	-5,445.1
Import Duty	26,758.6	33,927.8	7,169.2
Other taxes	-6,806.6	8,552.5	15,359.1

Preliminary figures subject to review

Sums may not coincide due to rounding

1st published in the D.O.F. 11 December 2013

Source: Ministry of Finance and Public Credit









**Pan American  
Health  
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