



# Using Sugar-Sweetened Beverage Taxes and Advertising Regulations to Combat Obesity in Mexico



**WORLD BANK GROUP**



## PROJECT DATA

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## Preface

The soaring prevalence of obesity, and the non-communicable diseases (NCDs) associated with it, is increasingly becoming one of the main public health threats in the world. Once considered an ailment of the rich, overweight and obesity are no longer a health concern only in wealthy countries. Their prevalence continues to grow in low- and lower-middle-income countries (LMICs), and is pervasive even in countries where undernutrition persists.

To face this challenge, many countries have designed and implemented comprehensive strategies and standalone policies to curb the epidemic. However, most documentation around the process to design and implement these policies come from high-income countries, and only recently have there been some efforts aimed at understanding the process and experiences in middle-income countries. This work aims to help fill this knowledge gap.

This case study is part of a series of country case studies commissioned to better understand the process of designing and implementing policies to prevent and control obesity. The series provides an overview of the contextual factors and political processes in which these policies were introduced and the roles of the stakeholders in moving the policies forward from design to implementation. The countries included in the series span World Bank regions and income levels, including Brazil, Chile, India, Mexico, Poland, Thailand, Turkey, Sri Lanka, and South Africa.

This case study was prepared by Mireya Vilar-Compte as part of a Global ASA report on the Prevention and Control of Obesity. Many people contributed to the preparation of this case study, and thanks are due for their contributions, starting with the stakeholders and experts who graciously gave their time in interviews to help develop the story that became this case study. Claudia Macias, as Task Team Lead, provided invaluable support in liaising with government counterparts, reviewing drafts, and ensuring a smooth clearance process. Maria Eugenia Bonilla-Chacin served as the Principal Investigator and provided helpful insights and guidance throughout the preparation of the case study. Linda Brooke Schultz provided technical oversight, extensive guidance, and review at every stage of the case study. Jacob Bathanti reviewed many drafts and provided guidance during the writing process. On the GDI team, Sruti Bandyopadhyay and Claudio Santibañez provided review and support. Financial support for this work was provided by the Government of Japan through the Japan Trust Fund for Scaling Up Nutrition.

The nine case studies were developed utilizing a case-study methodology developed by the Global Delivery Initiative (GDI). GDI is a collaborative effort to create a collective and cumulative evidence base of delivery know-how to inform development practice and improve implementation. For each case study, the methodology was tailored to highlight the factors that supported and hindered the design and implementation of obesity prevention policies in each individual country. This series aims to answer three key questions within the analysis: (1) *the development challenge*, the overall problem the country was aiming to solve; (2) *the delivery challenge*, the experiences that hindered the policy design and implementation from achieving its full potential; and (3) *the inflection points* that stalled or progressed the momentum gained throughout the process.

Each case study is based on peer-reviewed literature, publicly available government documents, a review of mass media advocacy campaigns, and in-person qualitative interviews with a broad range of key stakeholders.

Maria Eugenia Bonilla-Chacin

## Introduction

This case study centers in understanding how taxes on sugar-sweetened beverages (SSBs) and advertising regulations were defined and designed as policy instruments, how such policies gained traction for enactment in Mexico, how the policies were implemented, specifically considering market and political interests, and the future prospects of such policies, given the dynamic political environment.

More generally, the case looks at the difficulties and gaps emerging from a well-established strategy on paper to its actual implementation in the political reality.

Mexico has one of the highest prevalence of overweight and obesity in the world. Obesity is a risk factor for various chronic conditions and creates significant costs for healthcare systems.

The Mexican government has recognized the urgency for action. In 2013, the federal government published the *Strategy to Prevent and Control Overweight, Obesity and Diabetes* (hereinafter, the Strategy), which provided a multifactorial framework to develop policies to combat obesity.

This case study examines the enactment and implementation of two policies that are part of the Mexican

Strategy. More specifically the case study focuses on the regulations on the advertising of foods/beverages on television (during programming directed to children) and the taxes on sugar-sweetened beverages (SSBs) with no nutritional value. Such instruments sought to reduce consumption of foods/beverages with no nutritional value and are intended to modify the obesogenicity of the contextual environment. Among the different policies contained in the Strategy, these two were selected for study because they have been implemented, and their design and enactment brought heated debate about the role of the government in addressing obesity as a policy problem.

Mexico served as an international reference in terms of setting a national strategy to combat obesity and in taxing SSBs. It was, for example, the first country in the America's to tax SSBs. Hence, it can provide important lessons about the challenges behind regulations and fiscal policies, among them the relevance of the involvement of civil society, the importance of local and international scientific evidence, and the political timing of their enactment.

These instruments followed different political paths toward implementation. This study will examine the challenges that they faced. A complete understanding of the policies also requires a broader understanding of the magnitude of obesity as a problem in Mexico, as well as a clear framework of the contextual conditions in which the policies were designed, enacted, and implemented.

Globally, the food industry has frequently argued that food consumption is an individual responsibility and that any regulation would be an interference to free choice and market solutions (Juárez 2014). Such arguments disregard the market failures and distributional limitations around food choices. Market failures are situations in which decentralized behavior—as presumed by free choice and the market—do not lead to efficient outcomes and social welfare is negatively affected (Weimer and Vining 2005). Prior studies have revealed that negative externalities and asymmetries of information are key determinants when analyzing food access and obesity trends. Similarly, there are situations in which the outcomes of the market may be unfair. For example, income distribution inequalities are well known to affect food choices towards cheaper and more calorie-dense products (Vilar-Compte, Bernal-Stuart et al. 2014), thereby leading to unequal distribution of malnutrition problems. Both elements explain why governments need to implement policies

to combat overweight and obesity. This section provides an overview of two key governmental actions identified in the Strategy to promote healthier food choices and to improve the worrisome obesity trends in Mexico.

- **Tax on Sugar-Sweetened Beverages (SSBs)**

Scientific evidence has linked intake of SSBs—a category that includes sodas, sport beverages, flavored milks, teas and coffees ready to drink, and any type of juice (excluding those which are entirely prepared with fruits and vegetables)—to obesity as well as to an increase risk of type 2 diabetes and cardiovascular diseases (Janssens, Shapira et al. 1999; Schulze, Manson et al. 2004; Ebbeling, Feldman et al. 2012). Among the Mexican population, 70 percent of adults' sugar intake comes from SSBs (Alimentaria 2006). Hence, from a policy point of view, imposing a tax on such products is linked to the notion of accounting not only for the private costs of the product, but also for the social costs. Increasing the cost of the product would ideally lead to a reduction in the amount consumed and, thus, to the side effects imposed on society. Additionally, some studies indicate that the tax could help the Mexican government save \$983 million on healthcare costs from diabetes prevention alone and its implementation could save 18,900 adult lives between 35 and 94 years (Sánchez-Romero, Penko et al. 2016). Such behavioral modification is expected to take time, and in some sectors, may not be achieved. The short-term goal of the taxing scheme is to collect revenues that could be further invested in health promotion activities and preventive measures.

- **Regulations on TV and movie theaters food advertising**

From a policy perspective the idea to regulate food and beverages advertisements on TV and movie theaters is linked to the asymmetries of information implied and the effects it has in the formation of preference among vulnerable populations (i.e., children) (Consumidor 2015). Some consumer organizations, like the Autoregulation Publicity Council in Mexico (CONAR for its acronym in Spanish, *Consejo de Autorregulación y Ética Publicitaria*), highlight the relevance of advertisement as a tool to promote free choice among consumers,<sup>1</sup> and advise not placing restrictions. However, food and beverage advertisements are

considered a social determinant of obesity, and they are known to be particularly influential in shaping children's preferences towards foods with low nutritional content (Théodore, Juárez-Ramírez et al. 2014). It has also been reported that most advertising of foods and beverages targeted at children is for products with high fat and sodium content and added sugar (INSP 2013).

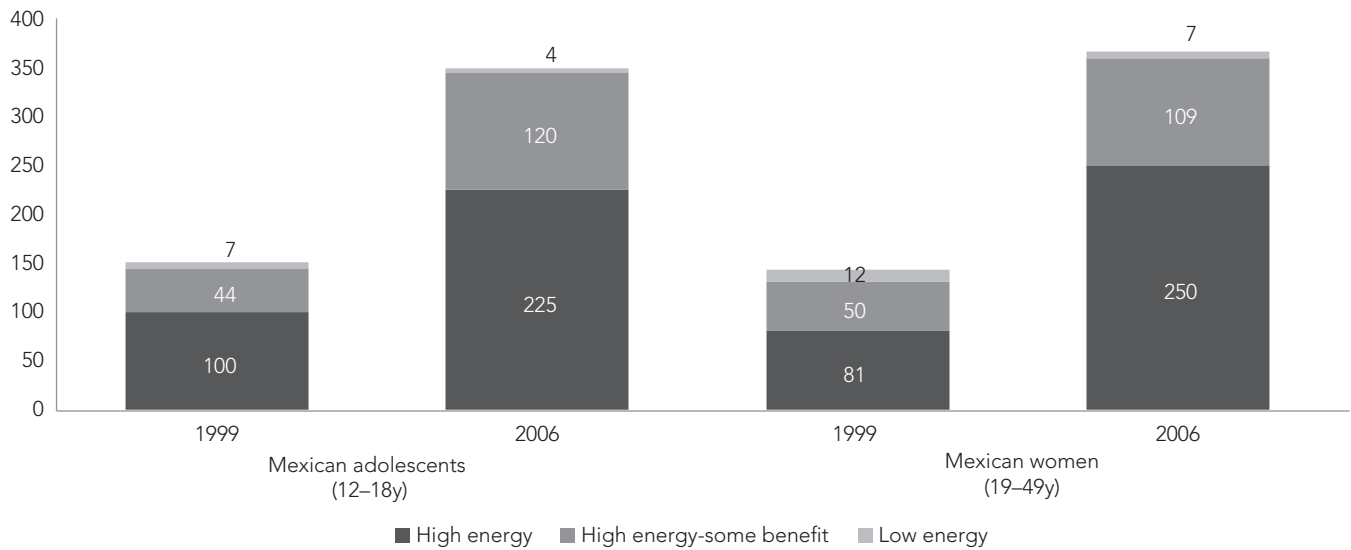
## **Development Challenge: High Prevalence of Obesity in Mexico**

The high prevalence of overweight and obesity in Mexico is partially explained by a nutritional transition process, which has led to an incremental increase in the availability of low cost and highly processed foods and beverages, and an increase in fast food consumption. For example, Mexico's per capita soda consumption has been estimated at approximately 163 liters per capita, placing the country as one of the major consumer of soda in the world; 80 percent of teenagers and 70 percent of adults in Mexico consume at least one soda daily. According to national surveys the proportion of households that reported soda consumption increased from 48 percent to 60 percent between 1999 and 2006 (SSA 2013). Such consumption trends have been paired with an increase in the promotion of processed foods and a distortion in the relative prices of healthy choices. For example, in 2010 a study from the Mexican Institute of Medical Sciences and Nutrition revealed that Mexico led the world in the number of TV advertisements of high energy density foods. In addition, the study highlighted that children were disproportionately exposed—with the assumption that children watched on average two daily hours of TV, they would be exposed to more than 12 thousand high energy density food advertisements yearly (Calvillo, García et al. 2014; Rincón-Gallardo Patiño, Tolentino-Mayo et al. 2016).

Mexico is going through an accelerated nutritional transition, which has led to the substitution of unprocessed and fresh foods with processed foods and beverages with added sugars, high in energy density, and low in fiber (Bonvecchio Arenas, Fernández-Gaxiola et al. 2015). An example of the nutritional transition in Mexico is the increased intake of energy-containing beverages during the first decade of the 2000s (Popkin, Adair et al. 2012). As shown in Figure 1, between 1999–2006 consumption of high-energy beverages more than doubled among adolescents and tripled for adult women (Barquera,

1 Author interview with CONAR, April 26<sup>th</sup>, 2017.

**Figure 1 Daily high- and low-energy beverage consumption trends in Mexican adolescents and women**



Source: (Barquera, Hernandez-Barrera et al. 2008).

Hernandez-Barrera et al. 2008). Similarly, between 1999 and 2012, total daily energy from beverages increased among children aged 5–11 years by 45.3 kcal, among female adolescents 57.4 kcal, and among female adults 96.4 kcal (Stern, Piernas et al. 2014).

High-energy beverages include SSBs and other sugar substitutes (carbonated and noncarbonated), fruit drinks, sweetened tea and coffee, maize-based traditional beverages, alcohol, and other modern sweetened energy-containing beverages. On the other hand, high-energy beverages with some benefit, include whole milk, flavored milk, natural (no sugar added) fruit juices and “aguas fresca”. Finally, low-energy beverages, including unsweetened tea and coffee, nonfat and 1% milk, and sweetened diet beverages.

Scientific evidence suggests that such modifications in diet have increased the prevalence of overweight and obesity,<sup>2</sup> both in urban and rural areas, among different socioeconomic levels, and in different regions of the country (see Table 1). The increasing rates of obesity

prevalence in Mexico are among the fastest growing in the world (SSA 2013). Therefore, in the last two decades, the prevalence of overweight and obesity have become pressing public health issues in Mexico (Barquera, Campos et al. 2013, Barquera, Campos-Nonato et al. 2013).

Mexico’s obesity prevalence is among the highest in the world. According to the 2016 National Health and Nutrition Survey (ENSANUT) the prevalence of overweight and obesity was 72.5 percent among adults (≥20yrs), 36.3 percent in adolescents, and 33.2 percent among children aged 5–11 years of age (2016).

In terms of the health burden, obesity is a significant risk factor for different chronic conditions. Diabetes, among the most common conditions, has a prevalence 14.7 percent in adults between 20 and 79 years in Mexico (IDF 2005), which is among the highest rates in the world. The number of people living with diabetes has increased over time in Mexico, the self-reported diagnosed prevalence has increased from 7.34 percent in 2006 to 9.4 percent in 2016 (Meza, Barrientos-Gutierrez et al. 2015, Transmisibles 2016), this has led diabetes to be one of the two leading cause of death in the country (SSA 2013).

In 2015 the top five causes of death in Mexico were caused by non-communicable diseases (NCDs), and unhealthy diet was among the three main risk factors for mortality and

<sup>2</sup> According to the WHO, overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health. Body mass index (BMI) is commonly used to classify overweight and obesity. In adults, it is defined as a person’s weight in kilograms divided by the square of his height in meters (kg/m<sup>2</sup>). A BMI greater than or equal to 25 is classified as overweight, and one greater than or equal to 30 as obesity.

**Table 1 Prevalence of Overweight and Obesity 2012–2016 for age subgroups and by region**

National prevalence of overweight and obesity in the population aged 5 to 11 by area and region of residence, ENSANUT 2012 and ENSANUT MC 2016.								
5 to 11 years old	2012	Overweight (%)	Obesity (%)	Overweight and obesity (%)	2016	Overweight (%)	Obesity (%)	Overweight and obesity (%)
Location	Urban	21.1	16.3	37.4		18.5	16.4	34.9
	Rural	16.2	9.8	26.0		16.5	12.5	29.0
Region	North	19.7	18.0	37.7		11.9	17.6	29.5
	Center	18.7	14.7	33.4		23.1	15.0	38.1
	Mexico City	23.6	14.7	38.3		15.9	17.0	32.9
	South	19.0	12.5	31.5		17.6	13.4	31.0
	National	19.58	14.6	34.4		17.9	15.3	33.2
National prevalence of overweight and obesity in the population aged 12 to 19 by area and region of residence, ENSANUT 2012 and ENSANUT MC 2016.								
12 to 19 years old	2012	Overweight (%)	Obesity (%)	Overweight and obesity (%)	2016	Overweight (%)	Obesity (%)	Overweight and obesity (%)
Location	Urban	22.5	15.1	37.6		22	14.7	36.7
	Rural	18.8	8.0	26.8		23.7	11.3	35.0
Region	North	20.7	16.2	36.9		21.8	16.2	38.0
	Center	21.2	12.3	33.5		17.2	13.9	31.1
	Mexico City	20.8	14.9	35.7		22.7	18.8	41.5
	South	22.9	11.9	34.8		28.5	10.1	38.6
	National	21.6	13.3	34.9		22.4	13.9	36.3
Comparison of BMI categories in adults 20 years of age or older, according to the region of the country and type of location.								
20 years old or older	2012	Overweight (%)	Obesity (%)	Overweight and obesity (%)	2016	Overweight (%)	Obesity (%)	Overweight and obesity (%)
Location	Urban	38.8	34	72.8		38.2	34.7	72.9
	Rural	39.1	26.5	65.6		42.7	28.9	71.6
Region	North	35.9	37.2	73.1		36.1	37.8	73.9
	Center	39.5	30.3	69.8		41.8	29.4	71.2
	Mexico City	39.9	33.9	73.8		40.0	36.5	76.5
	South	39.6	31.6	71.2		38.0	34.7	72.7
	National					39.2	33.3	72.5

Source: ENSANUT 2012–2106.

disability (IHME 2015). High body mass index (BMI) has been estimated to contribute to 12.2 percent of mortality in the country (Stevens, Dias et al. 2008).

Obesity rates are projected to lead to large economic and health burdens. In Mexico, projected healthcare costs of 13 obesity-related diseases in 2013 were estimated at US\$880 million, and the study suggested that without effective policies, this cost would escalate over time (Rtveladze, Marsh et al. 2014). By 2017, the direct costs of obesity nationally are projected to be between US\$4.3 and \$5.6 million (Gutiérrez Delgado, Barrón et al. 2012).

The Mexican government's *Strategy to Prevent and Control Overweight, Obesity and Diabetes* was intended to be a response to this critical development challenge.

### **Delivery Challenge of Enacting and Implementing Regulations and Fiscal Policies to Combat Obesity in Mexico**

The key delivery challenge faced by health authorities was a distorted market structure, in which the pricing system was not leading to desirable outcomes due to market failures



such as asymmetries of information and externalities. In terms of the externalities, it is known that foods frequently account only for its private cost which is different from the social one, leading to an increased consumption that does not account social side effects such as increased health care costs. This led authorities to use different policy instruments, among them fiscal incentives and regulations, which would modify choices of individuals by affecting relative prices and influencing consumer preferences through massive marketing strategies. However, enacting such types of policies would cause significant consequences for the food and beverages industry.

For the tax on beverages with added sugars, a key challenge was the potential for patronage and opposition, as the food industry actively used its resources to induce political interference. For screen regulations (i.e., TV and movie theaters), two important challenges were the absence of consensus among stakeholders and debatable nutritional indicators to establish which foods and beverages could be advertised.

Both policies were enacted at almost the same time (in 2014), and despite being part of the same Strategy, this may have caused a depletion of political capital for the government to negotiate with the food industry, leading to policies with different nutritional standards and different degrees of civil society and food industry involvement.

## Context and Background

The policies examined in this case study were undertaken as part of the Mexican government's *National Strategy to Prevent and Control Overweight, Obesity and Diabetes*. However, this Strategy was preceded and informed by previous policy efforts which are examined here.

### Antecedents of the Mexican Strategy to Prevent and Control Overweight, Obesity and Diabetes

After the publication of the 2006 ENSANUT, the Mexican government recognized the urgency in preventing overweight and obesity. Among the first visible actions, were those set by the Mexican Social Security Institute (IMSS, for its acronym in Spanish, *Instituto Mexicano del Seguro Social*), through *PrevenIMSS*, a preventive program targeted at early detection and treatment of different chronic diseases and dietary problems. *PrevenIMSS* had a significant investment in mass media (135,342 radio

spots and 6,829 TV spots in 2013).<sup>3</sup> However, due to the fragmented nature of the Mexican Health System and the multifaceted nature of obesity as a public health issue, this approach had little noticeable or sustainable results (Barquera, Campos et al. 2013). *PrevenIMSS* continued to be implemented until May 2017 when a new model was announced. The revised model seeks to deploy teams to employment centers to promote healthy lifestyles and preventive check-ups and to establish new healthcare clinics specialized in chronic conditions (IMSS 2017).

In January 2006, the Mexican Government published the first nutritional guidelines (*Norma Oficial Mexicana 043*) in the country. Such guidelines included *El Plato del Bien Comer*—a visual version of the nutritional guidelines equivalent to *My Plate* or food pyramids in other countries (SSA 2006). This visual representation of the guideline has since then been part of the curricula in primary schools across the country. Establishing such guidelines implied an important recognition from the federal government of the need to provide nutrition information to the population as a tool to prevent obesity.<sup>4</sup> Such guidelines were updated in 2012, but *El Plato del Bien Comer* was not modified.

Another relevant antecedent was the *Mexican Beverage Guidelines for Healthy Hydration* in 2007—an initial policy instrument to tackle the intake of high caloric beverages. These guidelines included a graphic representation of the recommendations known as the “healthy beverage pitcher” which was rapidly disseminated in social media and was also included in the textbooks of the national primary education system (Barquera, Campos et al. 2013). While the “healthy beverage pitcher” is still used, it does not have a regulatory framework (i.e., there are no norms associated with it) and has not been updated. While the recommendations linked to the *Mexican Beverage Guidelines for Healthy Hydration* have been well accepted, the graphical depiction of “the healthy pitcher” has not been accepted by the Ministry of Health (MoH) as a valid information tool.<sup>5</sup>

In 2008, the MoH established an expert group to launch a more integral and inclusive perspective for national efforts to combat the obesity epidemic. The expert group initiated the development of the *National Agreement for Food Health: Strategy Against Overweight and Obesity*

3 For an example of the TV spots <https://www.youtube.com/watch?v=RM3VEvX09DA>.

4 Author interview with *Federación Mexicana de Diabetes*, June 12<sup>th</sup>, 2017.

5 Author interview with official form the MoH, September 5<sup>th</sup>, 2017.

(ANSA, for its acronym in Spanish). The Agreement followed the idea of creating comprehensive, multilevel policy to reverse the obesity epidemic and its associated chronic diseases (Bonilla-Chacín 2012, Barquera, Campos et al. 2013). It is recognized as one of the first efforts of the Mexican government to generate a policy targeting obesity from a prevention standpoint. ANSA was signed in 2010 by the federal government as well as by the food and beverages industry, non-governmental organizations (NGOs), and academia. It was published in the same year by the MoH. Its main objective was to counter the epidemic of overweight and obesity in children, halt the increase in the prevalence of overweight and obesity among adolescents, and slow the growth in their prevalence among adults (Bonilla-Chacín 2012). The focus on children and adolescents resulted partially from the outcomes of the 2008 School's Health Survey (*Encuesta de Salud del Escolar*), which highlighted the high prevalence of overweight and obesity in these specific subpopulations.<sup>6</sup>

ANSA established ten specific objectives which included actions targeted at physical activity, safe drinking water, moderate consumption of sugars and fats in drinks, daily intake of fiber, informed decision-making supported by labeling, exclusive breast-feeding, added caloric sweeteners, portion sizes, intake of saturated fats, and sodium consumption (Córdova-Villalobos 2010).

The Agreement set the stage for different obesity prevention initiatives:

- The *Technical Basis for the National Agreement on Food Health*, which focused on detailing the policies and actions each governmental agency would need to implement.
- The *General Guidelines for the Sale or Distribution of Foods and Drinks in Primary Schools' Facilities*. The purpose of these school guidelines was to establish actions promoting healthy eating and a framework for an environment within schools that would enhance healthy lifestyles, and in the long run, would lead to preventing overweight and obesity. Such Guidelines were specially pushed by the Minister of Education—Alonso Lujambio—who has been recognized as a champion<sup>7</sup> in the design of guidelines that would be legally binding for all public and private

schools and that have been recognized as the first regulatory policy to combat obesity.<sup>8</sup> Unfortunately, the guidelines lacked effective accountability and monitoring mechanisms (Barquera, Campos et al. 2013). Such limitations have been highlighted both by civil society organizations<sup>9</sup> as well as by associations representing the industry sector.<sup>10</sup>

The value of ANSA and the subsequent initiatives are primarily in terms of how obesity was positioned in the governmental agenda and how they brought together actors from the public, private and social sector to start a dialogue on obesity as a public health concern.<sup>11</sup> ANSA stimulated the interest in obesity of different actors from a public policy perspective and recognized the need of obesity prevention policies (Barquera, Campos et al. 2013). For example, the Mexican Academy of Medicine published a book—*Obesity in Mexico Recommendations for Governmental Policy*—that resulted from multidisciplinary work of 41 specialists who discussed different policy instruments to dealing with obesity in the country (Rivera Dommarco, Hernández-Ávila et al. 2012). Similarly, it stimulated NGOs and civil society organizations, like *El Poder del Consumidor*, to monitor the implementation process of ANSA and evaluate how different actors were implementing the established actions (Gutiérrez-Delgado, Armas-Texta et al. 2016). However, it should be stressed that civil society organizations believe that they were not directly involved with ANSA, something that could be highlighted as a weakness.<sup>12</sup>

Despite a gap in evaluative evidence, the existing information suggests that ANSA was successful in positioning obesity as a policy issue in the political agenda, as well as viewing it from a prevention and multi-sectorial perspective. However, its success from an implementation perspective was limited by factors such as lack of budgetary resources, lack of inter-institutional coordination, absence of monitoring mechanisms, and weak regulatory mechanisms (Bonilla-Chacín 2012). Similarly, the involvement of the food industry in ANSA was viewed by the academic and civil society sectors

6 Author interview with official form the MoH, September 5<sup>th</sup>, 2017.

7 Author interview with official form the MoH, September 5<sup>th</sup>, 2017.

8 Author interview with *El Poder del Consumido*, April 27<sup>th</sup>, 2017.

9 Author interviews with *ContraPESO*, May 2<sup>nd</sup>, 2017 and *El Poder del Consumidor*, April 27<sup>th</sup>, 2017.

10 Author interview with CONAR, April 26<sup>th</sup>, 2017.

11 Author interview with official from the MoH, September 5<sup>th</sup>, 2017.

12 Author interviews with *ContraPESO*, May 2<sup>nd</sup>, 2017.

as an intrinsic problem because it implied a potential conflict of interest.<sup>13</sup>

## Mexican Strategy to Prevent and Control Overweight, Obesity and Diabetes

Considering the limitations of early policy initiatives—specifically ANSA—such as weak regulatory instruments, and the absence of monitoring mechanisms, in 2013 the Mexican federal government, through the MoH, published the *Strategy to Prevent and Control Overweight, Obesity and Diabetes* (see Annex 1 for a summary).

Some stakeholders suggested that ANSA demonstrated the weakness of voluntary and auto-regulatory policies in dealing with a public issue of the magnitude, social relevance, and complexity of obesity. This thinking, therefore, led to the inclusion of regulatory and economic approaches in the Strategy.<sup>14</sup>

Some of the aspects that prompted the publication of the Strategy were: (i) the need to react to an increasing public health problem;<sup>15</sup> (ii) the recognition of the magnitude of obesity in Mexico when compared to other countries;<sup>16</sup> (iii) the increasing voice of civil society organizations who were critical of the lack of effective policies to prevent and combat obesity;<sup>17</sup> (iv) the increasing body of national and international scientific knowledge and evidence-based policies;<sup>18</sup> and (v) the electoral cycle, which brought a new administration that acknowledged obesity as a relevant policy issue.<sup>19</sup>

The Strategy established policy aims to promote healthier eating and more active lifestyles. It sought an approach based on displaying obesity as a national problem and in presenting evidence that would be understood by policymakers, thereby implying that obesity would not only be portrayed as an individual “medical issue,” but also as an outcome of economic and social determinants.<sup>20</sup> The Strategy highlighted the ideas

from WHO that health should be part of every public policy in the Nation, and that social determinants of health should be the base of every policy (from promotion activities to healthcare provision). More specifically, the Strategy established three pillars of action: (i) public health, which encompassed epidemiological surveillance, health promotion, and prevention activities; (ii) medical attention, which comprised quality and effective access to primary healthcare services; and (iii) regulatory and fiscal policies such as labeling, regulations on marketing strategies, and fiscal instruments that would help promote healthier lifestyles (SSA 2013).

It is relevant to note that the Strategy benefited from a window of opportunity provided by a political transition in Mexico. In Mexico, presidential periods last for 6 years and if policies are pushed at the beginning of the presidential period they have better odds of being implemented. The Strategy was published at the beginning of the Peña-Nieto’s administration (2013). His administration began at the time when outcomes from the ENSANUT 2012 were announced highlighting the high prevalence of obesity and providing evidence of the magnitude of such public health issue. At the same time, civil society and NGOs started working together, leading to coalitions like *Contrapeso* and *Alianza para la Salud Alimentaria*. They concretely pushed for a preventive and integral policy approach to the obesity challenge, placing nutrition as a key factor. Such alliances were prompted by the lack of civil society involvement in obesity. This led to their participation in the National Development Plan discussion groups. Their participation was especially relevant considering that the National Development Plan is the document that the executive power presents during the first six months of the President’s administration and establishes the national goals, strategies, and development priorities. The presence of different actors in the National Plan discussion groups—including civil society—encouraged the executive power to recognize obesity and overweight as a national priority.

Such pressure, coupled with the actions of other sectors such as academia, which was continually generating scientific local evidence, set the stage for a national strategy that included social communication, regulatory policies (i.e., foods in schools, labeling) and fiscal measures (aiming both at reducing consumption and, ideally, increasing fiscal revenues to implement other prevention measures). These approaches coincided with the international evidence and recommendations of

13 Author interviews with *ContraPESO*, May 2<sup>nd</sup>, 2017 and *Polithink*, May 4<sup>th</sup>, 2017.

14 Author interview with official from the MoH, September 5<sup>th</sup>, 2017.

15 Author interviews with *CONAR*, April 26<sup>th</sup>, 2017, and *FMD*, July 12<sup>th</sup>, 2017.

16 Author interviews with *FMD*, July 12<sup>th</sup>, 2017, and *Contrapeso*, May 2<sup>nd</sup>, 2017.

17 Author interviews with *ContraPESO*, May 2<sup>nd</sup>, 2017; *El Poder del Consumidor*, April 27<sup>th</sup>, 2017, and *REDIM*, June 8<sup>th</sup>, 2017.

18 Author interviews with official from the MoH, September 5<sup>th</sup>, 2017; *Contrapeso*, May 2<sup>nd</sup>, 2017; and *FMD*, July 12<sup>th</sup>, 2017.

19 Author interview with *El Poder del Consumidor*, April 27<sup>th</sup>, 2017.

20 Author interview with official from the MoH, September 5<sup>th</sup>, 2017.



WHO/PAHO (General 2011; PAHO 2014). Hence, there was a convergence of political timing, scientific evidence, and pressure from civil society to recognize obesity as a social priority that required governmental intervention.

## Tracing the Enactment and Implementation Process

This section elaborates how each of these policies—SSBs taxes and advertising regulations—made their way to the policy agenda, and subsequently to their enactment and implementation. As noted above, despite being part of the same national strategy and occurring at the same time, their political process was different. Jointly, they provide important lessons into the policymaking of obesity actions.

### Fiscal Measures to Combat Obesity in Mexico: Taxing SSBs

The idea of using taxes as a policy instrument to reduce the prevalence of obesity in Mexico was initially proposed in 2007. At that time, the federal government<sup>21</sup> proposed to Congress a five percent tax on SSBs. However, the soda industry opposed the proposal and argued that the measure would have no impact on soda consumption (2006). Congress did not pass the measure, and there were some reports from congressmen stating that the soda industry threatened them with withdrawing industries and investment from the country if the tax came through. While the initiative was being discussed, Congressmen Gamboa Patrón stated that “no one would leave Mexico, that soda industry would not leave the country” (2006). In 2009, a similar fiscal measure was discussed in Congress. More specifically, the MoH proposed to Congress a tax of 10 percent on sodas. But the policy again did not pass (Donaldson 2015), as strong arguments were posed by the main soda bottler firm regarding potential losses and how the tax would be passed on to consumers during a period in which households were recovering from an economic crisis. In addition, in 2009 some relevant fiscal measures about taxes on food were discussed in Congress that negatively affected the positioning of taxing sodas (Rivero 2009).

But the idea did not lose traction; at the international level, taxes were increasingly recognized as a valid

measure to combat obesity and chronic health conditions. In 2012, the Mexican Academy of Medicine (Rivera Dommarco, Hernández-Ávila et al. 2012) acknowledged that implementing a soda tax would be an important strategy to reduce obesity in the country. This antecedent suggests that policy communities in Mexico were active in generating knowledge about such fiscal measures. This was a key element in 2012 when the new federal government came into office proposing a fiscal reform, as the scientific knowledge was ready to be used during such window of opportunity.

In 2013 the newly elected President Peña-Nieto presented to Congress a fiscal reform package, which included a special tax of \$1 MXN per liter to beverages with added sugars (approximately an *ad valorem* tax of 10 percent), establishing it as a measure to reduce obesity.<sup>22</sup> The role of civil society was crucial during the discussion of the proposal in Congress, as civil society actors helped systematize and disclose relevant scientific evidence to legislators, who acknowledged that lobbying from the soda industry was substantive during this period.<sup>23</sup> Even if the fiscal measure was solidly established, it was below the 20 percent tax recommended internationally (OPS/WHO 2013). However, it is relevant to highlight that the political process in Mexico was happening almost at the same time in which international recommendations about the SSB tax threshold were being discussed, and that there were almost no prior experiences in implementing SSB taxes. Both aspects made it more difficult to count on such evidence during the design of the policy and the political negotiations.

The SSB tax went into effect in 2014, and in 2015 the Supreme Court confirmed its constitutionality (Donaldson 2015). It is relevant to highlight that while academia and civil society participated in drafting a proposal for taxing SSBs, the legislative power also included an *ad valorem* tax of eight percent on energy-dense foods with low nutritional value.

The enactment of the tax on SSBs in Mexico was fostered by scientific evidence and by advocacy efforts focused at increasing the visibility of the problem and pushing the issue into the public agenda. The use of scientific evidence was critical in putting together the advocacy campaign, as it provided the data on the magnitude, the effects of SSBs, and the potential solutions. The academic

21 This was a presidential fiscal package imitative which was not limited to SSBs.

22 The tax excluded flavored milks, diet sodas, and beverages labelled as medicines.

23 Author interviews with Congressmen, June 2017.

community had generated important knowledge on the issue of obesity in the years prior to the enactment of the tax. For example, through ENSANUT 2012 it was documented that 12.5 percent of the energy in Mexican dietary intake originated from added sugars, while the WHO recommended that it should be no more than 10 percent. In addition, the survey revealed that about 70 percent of the intake of such added sugars in Mexico were from sugary beverages.<sup>24</sup>

Despite this evidence, actors representing the food and beverage industry suggested it was not convincing, leading to questions about the scientific basis of taxing SSB<sup>25</sup> and to continuous tension between sectors. Some of the arguments posed were: (i) overweight and obesity are caused by an imbalance in caloric intake and caloric expenditure, and the contribution of soda to average caloric intake in Mexico is just 5 percent (i.e., other SSBs not considered), hence the fiscal policy would be limited in its impact; and (ii) the industry criticized the use of traditional policy instruments such as taxation as valid courses of action to solve complex, multidimensional problems like obesity. But these criticisms seem to minimize the government's broader vision of obesity prevention and control stated in the Strategy, in which fiscal measures for SSBs are one policy among various obesity-prevention actions.<sup>26</sup>

An innovative aspect in the enactment of the tax was the voice and participation of civil society (*El Poder del Consumidor*, and *Fundación Mídete* among others), as well as the advocacy efforts rooted in coalitions like *Alianza por la Salud Alimentaria* and *ContraPESO*. In addition, the participation of public interest lobbyists such as Polithink and academia (specifically, the National Institute of Public Health and the National Institute of Medical Science and Nutrition) was also relevant. This allowed advocates to pool financial resources and share a policy agenda, which in turn, raised the public visibility of the problem and promoted the engagement of policymakers. For example, pooled resources made possible mass media advocacy campaigns that informed the public of the harms of SSBs. One of the most visible examples was the “12 spoonsful of sugar” campaign (<http://alianzasalud.org.mx/12cucharadas/>), which highlighted the amount of sugar in sodas, and their health effects. This was an

innovative mass media campaign as it was the first time in which the amount of sugar in SSBs was visually portrayed to the public.<sup>27</sup> In addition, advocacy was strengthened by building relationships with media outlets and journalists, conducting press conferences, and encouraging key media players to publicly support the tax.

Similarly, *Alianza por la Salud Alimentaria* and *ContraPESO* used traditional lobbying activities that in the past had mainly been used by the food and beverage industry. Lobbying activities included mapping legislators to identify allies, meeting with legislative committees and key executive actors, and designing innovative materials and disseminating them in Congress during critical moments of the debate (2015).

Public demonstrations by tax supporters were another strategy to draw public attention and increase media coverage (2015). For example, in October 2012 tax supporters held a demonstration outside the Commission for Protection Against Health Risks (COFEPRIS, for its acronym in Spanish, *Comisión Federal para la Protección contra Riesgos Sanitarios*); there was a polar bear (a common character used in soda advertisement) suffering from diabetes and pouring soda, as an icon to highlight that half a million Mexicans had died of diabetes during the last year, and demonstrators called on government to take action (2012, 2015). The use of the polar bear was inspired by the video “The Real Bears” (<http://www.therealbears.org/>) that highlights the threats of soda consumption.

Finally, advocates working together with researchers were able to participate in drafting an initial proposal to Senator Marcela Torres Peimbert, who was a legislative champion in this arena (Esquivel 2013). The first initiative that emerged from such joint work was presented to Congress in December 2012, which proposed a 20 percent *ad valorem* tax to sodas—other sugary beverages such as flavored milks and industrial juices were not initially included to avoid arguments from opponents regarding their nutritional value. However, in April 2013 Congress decided to discard all fiscal related bills, including the 20 percent *ad valorem* soda tax, in order to prepare for discussions of the President Peña-Nieto's fiscal reform package, which would be presented in September 2013. This led civil society organizations and academia to switch their lobbying target towards the MoF which was analyzing different fiscal alternatives.

24 Author interview with researchers from the National Institute of Public Health, July 6<sup>th</sup>, 2017.

25 Author interview with ANPRAC, July 15<sup>th</sup> 2017; and CONMEXICO, May 25<sup>th</sup>, 2017.

26 Author interviews with official from the MoH, September 5<sup>th</sup>, 2017.

27 Author interview with *El Poder del Consumidor*, April 27<sup>th</sup>, 2017.

SSB taxes were presented in September 2013 as part of the Fiscal Reform Package presented by the President to Congress. This was an important aspect as the President was supported by the Revolutionary Institutional Party (PRI for its acronym in Spanish), a political party known to have a strong party discipline when voting at the legislative level, which had about half of the seats in Congress at that time. Another key party in passing the SSBs taxes was the Democratic Revolutionary Party (PRD for its acronym in Spanish), a left-wing political party who traditionally opposed to increasing consumption taxes. However, through the efforts of civil society organizations, several congressmen from PRD came to understand the connection between taxing SSBs and public health, leading them to support the proposal.<sup>28</sup>

An additional aspect in the enactment of the tax were the fixed periods in the legislative power to discuss the fiscal reform package, so this implied that once the tax was set in the agenda, there was a specific time frame for decision making, which avoided potential iterative policy cycles induced by opposing stakeholders.

SSB taxes were one of the policies in the fiscal reform package that led to a more heated debate. The tax had significant opposition from sugar cane producers, beverages bottlers, industry associations (ANPRAC and CONMEXICO) as well as some congressmen and select civil organizations (FMD and Center for Consumer Freedom). Key players opposing the tax used common strategies. For example, soft-drink companies and bottlers lobbied congressmen to oppose the tax (2015). Similarly, industry engaged local storeowners, by distributing incentives so that the store would display posters stating “This store and its clients say NO to another soda tax” (2013). Likewise, these types of advertisements were published in main national newspapers.

Those opposing the tax on SSBs returned to past arguments, especially those claiming that it would have a negative impact on the economy and that nutrition is an individual responsibility (2015). They sponsored media campaigns, such as “Let’s talk about sugar” paid by the sugar cane industry, which promoted sugar consumption based on the statement that that sugar is a natural product and “a little happiness everyday” (<http://hablemosdeazucar.com.mx/2016/04/14/mi-pase-olimpico-a-río-2016-5/>).

Finally, industry sponsored the creation of consumer front groups like the Center for Consumer Freedom to oppose the

tax; these groups did not exist before the taxation debate. They advertised that obesity could not be solved with taxes and portrayed the issue as follows: “Is obesity halted by taxes? Yes or no to a tax on chubby individuals?” This slogan was disseminated through different advertisement outlets.

Actors representing the soda industry highlighted that the tax resulted from two extraordinary elements: (i) the political power that civil society gained to influence decision-makers; and (ii) the need of the government to collect extra revenue.<sup>29</sup> The last argument, was raised by several actors—legislators, civil society<sup>30</sup> and chambers representing the food and beverage industry.<sup>31</sup> They mentioned that although the tax was initially presented as an obesity prevention measure, it is debatable as very few resources of those collected have been allocated to obesity and diabetes prevention measures.

While from a public health perspective SSB tax revenues should be earmarked for health prevention and promotion activities, such a mechanism is not included in the fiscal regulations in Mexico. Earmarking taxes has recently sparked debate: while some legislators and civil society organizations stated that it is the only feasible mechanism to increase spending in specific areas such as health prevention,<sup>32</sup> civil servants from the MoF<sup>33</sup> and the MoH<sup>34</sup> highlight that earmarking taxes actually distorts the market and limits the flexibility in budget spending. So, this has posed difficulties in thinking how the revenues from the SSB tax should be tracked to be allocated to public health interventions. The MoF designed a mechanism in which an addendum to the yearly budget—which needs to be approved by Congress—would devote a given amount of money to promote water fountains in public schools. However, this has led to important criticisms by the food and beverage industry (specifically CONMEXICO), because the amount needed for that project represents a small part of the revenues collected.

## Protecting Children: Regulations on TV and Movie Theaters Food Advertising

Before the National Strategy was published, there were no regulations in terms of foods and beverage promotion

28 Author interview with *El Poder del Consumidor*, April 27<sup>th</sup>, 2017.

29 Author interview with *ANPRAC*, July 15<sup>th</sup>, 2017.

30 Author interview with *El Poder del Consumidor*, April 27<sup>th</sup>, 2017.

31 Author interview with *CONMEXICO*, May 25<sup>th</sup>, 2017.

32 Author interview with Congressmen, June 2017.

33 Author interview with public officials from the MoF, June 2017.

34 Author interview with public officials from the MoH, September 2017.



in Mexico; only auto-regulatory (or voluntary) practices from the industry existed. For example, in 2009, under the umbrella of the “International Food and Beverage Alliance” (IBFA), influential food and beverage industries (i.e. Coca Cola, Bimbo, General Mills, amongst others) committed to advertising their products in a socially responsible manner for audiences younger than 12 years of age. Similarly, in 2009 an auto-regulatory promotion code for foods and beverages (*Código PABI*) was enacted and signed by 17 large firms; the code was defined as an instrument to promote healthy nutrition and lifestyles. It has been highlighted that among industries that signed the *Código PABI*, nearly all complied with it.<sup>35</sup> However, when compared to the standards recommended by the WHO/PAHO (see Table 2), these auto-regulatory actions are too soft to achieve the market modifications required to effectively contribute to combat obesity and overweight. Hence, some of the criticism posed by civil society organizations and academia to such an auto-regulatory approach have been: its lack of protection for adolescents; the lack of involvement from the government in the topic; the softness of their approach in restricting advertisements of foods with high percentages of added sugars, fat, and sodium; and the use of marketing techniques such as celebrities and promotions, both known techniques that affect preference formation, especially among children (Calvillo, García et al. 2014).

Prior scientific studies documented that such auto-regulatory approaches were insufficient. A study looking at TV food advertising to children globally, documented that Mexican children were among those exposed to more food advertising in the world, which suggested the need for a more regulatory approach (Kelly, Halford et al. 2010). Similarly, Pérez-Salgado et al (Pérez-Salgado, Rivera-Márquez et al. 2010), highlighted that beverages with added sugars, candies, and sugary-boxed cereal were the foods more commonly advertised during TV programming directed at children. Similarly, they reported that in Mexico during programming for children, unhealthy foods and beverages were the most frequently advertised products, covering 45 percent of the total advertisement time; moreover, around 67 percent of such ads used attractive animated characters that promoted emotional links, and in 46 percent offered toys to increase demand (Calvillo, García et al. 2014). This breadth of evidence prompted the

MoH to include regulatory policies for food and beverages advertisement in the Strategy.

Regulations were published on April 2014, and established that only products fulfilling nutritional standards could be advertised during children screen time, including TV and movie theaters<sup>36</sup> (Caso 2015). In the initial phase, candies, snacks, sodas, and sugary drinks were banned (Calvillo, García et al. 2014), and in a second stage other products were included, primarily fats, dairy products, cereals, desserts, soups, and sandwiches, amongst others (SSA 2014). Policy makers estimated that the enactment of the policy would lead to a decrease in about 10,200 yearly advertisements during children’s TV programming through the regulations (Proceso 2014, SSA 2014), and emphasized that the policy would be backed by penalties up to US\$50,000 for industries failing to follow the established regulations (Proceso 2014). The COFEPRIS stated that enforcement would rely on a strict monitoring of the regulated advertisements on TV and cinemas (Juárez 2014).

Linked to such regulations, in 2014 the Congress approved some modifications to the General Health Bill and the General TV and Radio Bill to provide an adequate legal framework for the advertising regulations (CEFP 2015). The advertising regulations were less polemical and visible than the SSB tax, but they were criticized by civil society organizations and academia (i.e., *Alianza por la Salud Alimentaria*) due to four main concerns.

First, the nutritional criteria for the regulations were based on the European Pledge, which was developed by the food industry as a commitment to advertise healthier options in child-directed media and promote voluntary self-regulation instead of regulatory instruments (Rincón-Gallardo Patiño, Tolentino-Mayo et al. 2016). This has led to softer standards than those recommended by PAHO/WHO. For example, while Mexican regulation allows advertising products with up to 30 grams of sugar per 100 grams, the recommendations are set at 5 grams (Calvillo, Espinosa et al. 2015).

Similarly, while PHAO/WHO suggests that regulations should apply to all media outlets (Calvillo, Espinosa et al. 2015), Mexican regulations only applied to TV and cinemas, leaving other advertisement outlets such as the Internet, social networks, and printed media unregulated. This has led food firms to invest less on TV ads and more

35 Author interview with CONAR, April 26<sup>th</sup>, 2017.

36 COFEPRIS established the following TV times: Monday-Tuesday 14:30–17:30, Saturday 7:00–19:30, and cinema adds in A and AA movies. This was set to be the time during which 35 percent of the audience is between 4–12 years.



**Table 2 Food and beverages advertising criteria: Differences between Código PABI and the international recommendations of WHO/PAHO**

	Código PABI	WHO/PAHO
Age	Only considers children under 12 years	Considers children and adolescents under 16 years
Agencies defining advertising limits	CONAR, entity financed by the industry	Regulation should be performed by the State using public policies
Nutritional Criteria for Advertising Restrictions	Allows advertising foods high in sugars, fat, and salt	Advertising regulations should especially target reductions in products high in fat, sugar, or salt content; mass media channels should not be used to promote this type of food in children
Use of public, sporting or medical characters	It allows the promotion of food and drink by celebrities and medical authorities	Recommends restricting the promotion by celebrities or medical authorities of food or drink with a high sugar, fat, or salt content
Promotion with a specific attraction for children	Allows publicity offerings, promotions, contests, and prizes aimed at children	Recommends avoiding promotions, prizes and/or contests aimed at children of food with a high content of sugars, fats and salt,

Source: (Calvillo, García et al. 2014).

on other electronic outlets targeting children (Córdova-Villalobos 2010).

In addition, the Mexican regulation excluded TV times during which kids are also exposed. Prior studies have estimated that around 70 percent of food advertisements seen by children 2–11 years of age resulted from watching non-child-focused TV programming (Harris, Bargh et al. 2009; Calvillo, García et al. 2014). As portrayed in a study of the Federal Institute of Telecommunications (IFT 2015), the peak hours of TV watching are after 7:00 pm (see Figure 2). Therefore, regulations should perhaps include all family-programming TV time.

The regulations have also been criticized based on the age range they cover (programming for children 4 to 12 years of age). According to international standards children are defined as individuals younger than 18 years of age, therefore, the regulatory policies left children between 13–18 years exposed to food publicity of any kind, an aspect that may prompt an increase of publicity among this age group as a compensatory strategy of the food industry (Calvillo, García et al. 2014). Among a revision of food publicity, an increase in the use of aspirational and sexually framed messages has increased among food advertisements targeted to adolescents. For example, BIMBO products that were generally targeted to kids have been now modified to depict a group of adolescents eating the product while skateboarding with the message “more fun than ever” (Calvillo, García et al. 2014). Similarly, the advertising of snacks like Doritos has increasingly used sex and partying motifs

for adolescents (for example, <https://www.youtube.com/watch?v=60KH33cFTGU>).

In addition, it should be stressed that the design of such regulations did not consider the input of civil society organizations, academia, and the perspectives of children.<sup>37</sup> This has led to significant criticism and lack of consensus surrounding the potential effectiveness of the regulations (Calvillo, García et al. 2014). Governmental documents state that the food industry provided inputs for the regulation (SSA 2014), but civil society organizations and academia were left out of such participatory policy-making processes. Despite the contribution of industry organizations, associations such as CONAR believe that such regulations are unnecessary, and state that advertising regulation will not help solving the obesity problem.<sup>38</sup> This highlights that despite participation in policy design, some actors do not agree in the goal of such policy instruments.

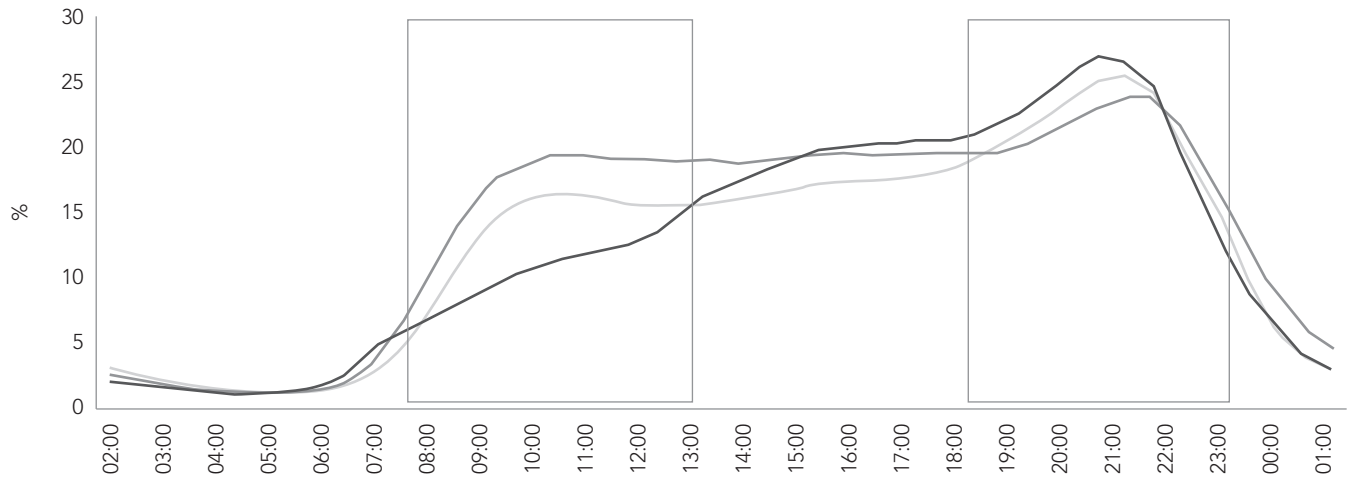
## Monitoring the Strategy and the Policies

The enactment of the Strategy imposed challenges in terms of monitoring mechanisms. The lack of monitoring mechanisms was one of the main weaknesses of ANSA. Hence, the MoH established the Mexican Observatory of Non-Communicable Diseases (OMENT), which was

<sup>37</sup> Author interview with REDIM, June 8<sup>th</sup>, 2017.

<sup>38</sup> Author interview with CONAR, April 26<sup>th</sup>, 2017.

**Figure 2 Time of the day and percentage of children 4–12 watching TV, 2014**



Source: (IFT 2015).

The study was performed in 28 Mexican cities in 2014. The darker line summarizes data on weekdays, the lighter line Sundays, and the medium tone line Saturdays.

designed as a platform to monitor the Strategy. The OMENT has faced some relevant challenges. Internally, within the MoH there were discussions of how to monitor and evaluate the Strategy (i.e., what types of indicators and who should measure them).<sup>39</sup> The final design led to an observatory in which several organizations from different sectors participate (including government, civil society, academia, and the food industry). The University of Nuevo León manages the OMENT. According to the MoH it was assigned that role because of their administrative capacity and technical expertise.<sup>40</sup> However, several members of civil society and academic organizations have claimed to be unrepresented in the OMENT.<sup>41</sup>

## Outcomes

The enactment and implementation of policies stemming from the National Strategy to Prevent and Control Overweight, Obesity and Diabetes, has put food and beverage related policies to combat obesity in the public

agenda. The public visibility of how our societal food/beverage selection affects obesity has increased and has led to the process of detaching obesity as individual responsibility and accepting it as a public health issue. This has partially been the result of increased scientific evidence, civil society actions, together with recognition of the problem from the government, both at the executive and legislative level. The Strategy has also raised concerns from the food industry sector, as it affects their ways of producing, marketing, and selling their products. Therefore, monitoring the outputs and impact of these policies will be crucial for future actions.

In Mexico, the monitoring and evaluation process of SSB taxes and advertising regulations have been uneven, with far more attention placed on taxes. This may be explained by two factors. First, advertising regulations raised less concern among food industry stakeholders, as the nutritional standards set were not very different from their prior practices and because this is a policy tool that had already been used in other countries. The second factor may be linked to the fact that evaluating a policy with a relatively feasible design, such as the SSB tax, becomes more relevant and stimulating than monitoring a policy which is known to have limitations in its design such as the Mexican regulations for advertising. For the latter,

39 Author interviews with official from the MoH, September 5<sup>th</sup>, 2017.

40 Author interviews with official from the MoH, September 5<sup>th</sup>, 2017.

41 Author interviews with *ContraPESO*, May 2<sup>nd</sup>, 2017.

despite the claims of some studies that food and beverages publicity of regulated products decreased between 2012 and 2014 (Cabrera 2015), the main concern has been in documenting that such regulated products and times were insufficient as a regulatory measure. Other studies show that food and beverages still advertised on Mexican TV do not meet more stringent nutritional regulations, and the majority have poor nutritional quality, leaving Mexican children exposed to unhealthy food advertisements despite the enacted regulations (SSA 2014, Consumidor 2015).

For SSB taxes, there has been a heated debate in terms of outcomes. Several studies have been conducted by different universities, using different data sources and statistical methodologies. Evidence is mixed, but it should be highlighted that, as shown in Table 3, studies that have been published in peer-reviewed journals (and which have not been financed by food industry related organizations like CONMEXICO and ANPRAC) have converged in finding positive outcomes.

There have been a number of studies published in respectable journals—with a high impact factor and peer-reviewed—that have documented a price change when the tax on SSBs was implemented, which seems to indicate that the tax was mainly passed along to consumers (Colchero, Salgado et al. 2015). Furthermore, based on a trend analysis, they have found a reduction of 7.3 percent in per capita sales of SSBs and increase of 5.2 percent of per capita sales of plain water in 2014–2015 compared to the pre-tax period (Colchero, Guerrero-López et al. 2016). Similarly, from a purchases perspective, one study found a decrease of 5.5 percent in 2014 and 9.7 percent in 2015 among taxed SSBs. Moreover, households in the lowest socioeconomic level were those with the largest purchase decrease, and therefore reported as the most responsive subgroup to the tax (Cochoero, Rivera-Dommarco et al. 2017). This may actually be good news from a public health perspective, as poor households are likely to be hit harder by obesity and diabetes, due to their potential access barriers to health. Similarly, another study reported that when compared with the expected purchases (based on trends from 2008 to 2012), there was an observed reduction in 2014 on SSB purchases of 6.3 percent, and also aligned with prior studies in pointing that such reduction was higher among lower-income households. This study also reported an increase of 16.2 percent in the purchases of bottled water (Colchero, Molina et al. 2017).

From a different standpoint, Sánchez-Romero et al. (2016), estimated long-term impact of the SSBs tax on the

incidence on chronic-conditions, mortality, and health-related costs in Mexico based on current data. This model was constructed on the assumption that decreasing added sugar intake is not only beneficial in terms of reducing calories or BMI, but it implies a reduction in risk factors for metabolic syndrome and certain chronic conditions. The main results show that the SSB tax could reduce type 2 diabetes, stroke, and myocardial infarctions, saving the country up to \$983 million international dollars. In other words, this tax may reduce morbidity and mortality from diabetes and cardiovascular diseases, and consequently, healthcare costs.

But not all evidence supports the tax; there have been three main criticisms. First, it has been argued that there is no scientific evidence showing changes in behavioral indicators such as calories or BMI. For example, Aguilar et al. (2016) conclude that SSB taxes are an inefficient policy tool, based on the lack of short-term association between taxation and reduction in total calories and BMI. However, from a public health perspective such arguments are weak as it is biologically difficult to assume average modifications of BMI in short periods of time. Similarly, the calories approach disregards the type of source they are coming from and the differences in metabolic risks they impose. This has been a frequent argument posed by the industry: “there are no good or bad calories, there are just calories.”<sup>42</sup>

Second, it has also been argued that the tax will lead to economic losses. This argument has been mainly pushed by ANPRAC. Their web site states that 30 thousand stores have been closed (<http://anprac.org.mx/1755-2/>) as a result of the tax; however, as stated by Campos and Medina (Campos-Vázquez and Medina-Cortina 2016), supermarkets in Mexico are a rather uncompetitive sector in which monopolist chains have pushed other smaller stores out of business.

Third, it has been argued that the tax is not working since large amounts of pesos have been collected from it. By definition, all taxes affect behavior and cause distortions in individuals’ actions to avoid the taxes. However, in the presence of market failures, corrective taxes improve economic efficiency by reducing the effects of externalities. SSB taxes will follow such a pattern, partially reducing the quantity demanded and collecting taxes among those who have a more inelastic response. It should be noted that tax collection has been higher than expected because collection efficiency has

42 Author interview with CONMEXICO, May 25<sup>th</sup>, 2017.

**Table 3 Studies about the Mexican SSB tax**

Author	Title	Journal	Funding	Research question	Methodology	Results
Colchero, et al.	Changes in Prices After an Excise Tax to Sweetened Sugar Beverages Was Implemented in Mexico: Evidence from Urban Areas (Colchero, Salgado et al. 2015)	PLoS ONE	None	Analyze price changes associated with the implementation of sugar and high energy dense foods taxes in rural and semi-rural areas.	A fixed-effects model to estimate the effect of the tax implementation in the average product price per municipality and establishment.	There is an increase in the SSB price. Results suggest that the SSB tax passed along to consumers for all SSBs and we found overshifting for the carbonated SSBs. A greater effect is seen among the small package sizes, and we see heterogeneous effects by region.
Colchero, et al.	Beverages Sales in Mexico before and after Implementation of a Sugar Sweetened Beverage Tax (Colchero, Guerrero-López et al. 2016)	The BMJ	None	Estimate the changes in SSBs and water purchases after the tax implementation on January 2014.	Tendency analysis in SSBs and water per liter and per liter per capita annual purchases during pre and post period, adjusted by seasonality.	Reduction of 7.3% in per capita sales of SSB and an increase of 5.2% of per capita sales of plain water in 2014–2015 compared to the pre-tax period (2007–2013).
Colchero, et al.	In Mexico, evidence of sustained consumer response two years after implementing a sugar-sweetened beverage tax (Cochoero, Rivera-Dommarco et al. 2017)	Health Affairs	None	Estimate changes in beverage purchases for 2014 and 2015 by socioeconomic status and beverage categories.	A fixed-effects model to identify the association between SSBs tax and purchases of taxed and non-taxed beverages for each post-tax year.	Purchases of taxed beverages decreased 5.5% in 2014 and 9.7% in 2015, yielding an average reduction of 7.6% over the study period. Households at the lowest socioeconomic level had the largest decreases. Purchases of untaxed beverage increased 2.1% in the study period.
Colchero, et al.	After Mexico Implemented a Tax, Purchases of Sugar-Sweetened Beverages Decreased and of Water Increased: Difference by Place of Residence, Household Composition, and Income Level (Colchero, Molina et al. 2017)	The Journal of Nutrition	None	Estimate how the purchases of non-alcoholic beverages changed after the implementation of the SSB tax and to explore the heterogeneity of these changes by income and household composition.	A two-part model to estimate the effect of SSB tax in weekly drinks' purchases.	6.3% reduction in the observed purchases of SSBs in 2014 compared with the expected purchases in that same year based on trends from 2008 to 2012. Reductions were higher among lower-income households. 16.2% increase in water purchases that was higher in low- and middle-income households.
Sánchez-Romero, et al	Projected impact of Mexico's sugar-sweetened beverage tax policy on diabetes and cardiovascular disease: a modeling study (Sánchez-Romero, Penko et al. 2016)	PLoS medicine	None	Estimate, with today's data, the long-term impact of the SSBs tax on the incidence of diabetes, coronary heart disease, stroke, mortality, and health-related costs in Mexico.	Simulations of Monte Carlo (95% CI) on the main results for each scenario: reduction of 10 and 20% in SSB consumption combined with caloric compensation of 0, 39 or 100%.	On average, men consume 1.24 SSBs per day and women 0.86, with young adults consuming the most. Assuming no change in consumption, 3.9 million new cases of diabetes and 1.2 million CVD deaths are estimated in adults aged 35 to 94 between 2013 and 2022.

*(continued on next page)*



**Table 3 Studies about the Mexican SSB tax** (continued)

Author	Title	Journal	Funding	Research question	Methodology	Results
Campos-Vazquez, R. & Medina-Cortina, E.	Pass-through and Competition: The impact of soft drink taxes using Mexican supermarket stores (Campos-Vázquez and Medina-Cortina 2016)	Working paper	Financed by food/beverages industry	Identify the incidence and public policy implications of the SSBs tax, considering the supermarket and retail stores' market structure.	Various fixed effects models to estimate the effect of the degree of competition and market structure on beverages' prices.	For all beverages, there is a tax over shifting effect which is not homogeneous among different SSBs. There is evidence that the supermarket market is not competitive.
Aguilar, A., Gutiérrez, E. & Seira, E.	Taxing calories (Aguilar, Gutierrez et al. 2016)	Working paper	Financed by food/beverages industry	Estimate the impact of SSBs and other high caloric products' taxes in Mexico.	A three-part model to estimate the impact of the tax on the price of sugary drinks and high caloric foods.	The demand of calories from taxed foods and the consumption of total calories did not change significantly as a result of the tax. More than half of the decrease in the consumption of sugary drinks is explained by a shift to smaller presentations.

also improved in the same period.<sup>43</sup> A pending discussion is how collected taxes are actually being used to justify taxation from an externality perspective.

Despite the heated debate on the effects of the SSB taxes in Mexico, the WHO/PAHO suggests that this tax should be increased to at least 20 percent of the SSB final price. The principal argument is that an increase in the price of SSBs would decrease consumption between 16 percent and 24 percent. It is also advised that all the tax collection should be focused on motivating the population to consume healthier food and pursue a healthy lifestyle.

## Lessons Learned

The Mexican Strategy to Combat and Prevent Overweight, Obesity and Diabetes resulted from prior policy attempts to address obesity from a multi-sectorial perspective. However, three key aspects determined the enactment and implementation of specific policies: (i) the scientific evidence, and a local community of experts able to communicate such knowledge to key policy stakeholders; (ii) the voice of civil society, which was key in demanding to government actions and in forming coalitions; and (iii) the right political timing that allowed the issue to be placed on the political agenda.

While having a Strategy has been a relevant political step, the specific policies stemming from it have areas that can be improved. As stressed by WHO/PAHO, such policies need to be strengthened over time. An example is the lack of a harmonized set of nutritional criteria. For example, while it was not addressed in this case study, the 8 percent *ad valorem tax* on junk food, seems to have potential contradictions with the advertising regulations. This is something that needs to be further studied so that in the future, policies combating obesity will be congruent in terms of their nutritional standards, which should be set by non-partisan processes (i.e., limiting the participation of the food industry).

In addition, nothing guarantees that policies will remain when the administration changes. This lack of continuity in the strategies to prevent and combat obesity could pose important threats to the public health benefits already achieved (both in political and public health terms). SSB taxes are better equipped to face electoral cycles because they are legally binding; they are a special tax on production and services (IEPS for its acronym in Spanish), whose modification needs to be discussed and approved by Congress. On the other hand, regulations on food advertisement have a weaker design since they are mainly linked to the Strategy to Prevent and Control Overweight, Obesity and Diabetes, which is a non-legally binding document of the executive branch of government, leaving it open to modification as a result of political maneuvering.

<sup>43</sup> Author interview with public officials from the MoF, June 2017.

Considering such challenges, civil society organizations and NGOs, academia and international organizations have an important role in negotiating with the government to increase the chances that such policies survive electoral cycles and can be improved. They also have an important role in collaborating with the government in overseeing the implementation and monitoring process.

As highlighted by the experience of the ANSA and the Guidelines for the Sale or Distribution of Foods

and Drinks in Primary School Facilities, monitoring mechanisms are key in the future of the policies. However, monitoring mechanisms linked to policies to combat obesity and overweight should be free of conflict of interest. While government needs to promote the involvement and discussion of different actors, it needs to be acknowledged that the food and beverages industry has high economic stakes in the issue, which may lead them to biased and partisan perspectives.

## Annex 1. Timeline of Antecedents and Key Actions Linked to SSB Taxes and Advertising Regulations

Year	Key actions
2006	<ul style="list-style-type: none"> <li>• ENSANUT 2006: reveals high prevalence of overweight and obesity in the country</li> <li>• Publication of the Mexican Dietary Guidelines (Norma Oficial Mexicana 043), and the graphical depiction “<i>El Plato del Bien Comer</i>”</li> </ul>
2007	<ul style="list-style-type: none"> <li>• Publication of Mexican Beverage Guidelines for healthy hydration (not an official norm like the dietary guidelines)</li> </ul>
2008	<ul style="list-style-type: none"> <li>• MoH establishes and expert group to design a more integral strategy for obesity prevention, they initiate the development of the National Agreement for Food Health: Strategy Against Overweight and Obesity (ANSA)</li> <li>• School’s Health Survey (i.e. <i>Encuesta de Salud del Escolar</i>), highlights the high prevalence of overweight and obesity among children and adolescents</li> </ul>
2010	<ul style="list-style-type: none"> <li>• ANSA is signed by the federal government, food and beverages industry, NGOs, and academia</li> </ul>
2011	<ul style="list-style-type: none"> <li>• Publication of the General Guidelines for the Sale or Distribution of Foods and Drinks in Primary School’s Facilities (an initiative that stemmed from ANSA)</li> </ul>
2012	<ul style="list-style-type: none"> <li>• Presidential elections, at the end of the year Peña-Nieto takes office</li> <li>• ENSANUT 2012: highlights the persisting epidemic of obesity and overweight in the country</li> <li>• Mexican Dietary Guidelines (Norma Oficial Mexicana 043), is updated</li> <li>• An initial proposal of a 20 percent soda tax is presented to Congress (drafted by civil society organizations, academia, and Senator Marcela Torres Peimbert)</li> </ul>
2013	<ul style="list-style-type: none"> <li>• The presidential office in liaison with executive agencies, and citizens’ participation, develop the National Development Plan 2013–2018; obesity is recognized as a national public health problem</li> <li>• Publication of the Mexican Strategy to Prevent and Control Overweight, Obesity and Diabetes (takes the place of ANSA)</li> <li>• Congress decides to hold all fiscal bills/measures, until the fiscal package of the Presidential Office was presented to Congress</li> <li>• Fiscal package is presented to Congress by the Presidential Office, which includes an <i>ad valorem</i> tax of 10 percent on SSBs which is approved</li> </ul>
2014	<ul style="list-style-type: none"> <li>• SSB tax is enacted and implemented</li> <li>• Advertising regulations for food and beverages during children programming are discussed, designed and implemented</li> </ul>

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