

**OBESITY: YOUR PROBLEM OR MINE?  
USING A FATTY FOOD TAX TO FIGHT THE OBESITY EPIDEMIC**

**By**

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APPROVED: \_\_\_\_\_  
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AS A POLITICAL APPROACH TO THE OBESITY EPIDEMIC

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This thesis examines the need for and use of a tax on unhealthy foods, including foods high in saturated and trans fats, as well as junk foods and soda, in the campaign against obesity. The thesis first outlines the definition and function of a “fat tax,” and then responds to the main arguments against the tax. Through the combination of several current proposed taxes, the thesis outlines a tax which is highly effective, fair to low-income households, and easy to administer.

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## **Part I: A Fat Tax in America**

### **1.0 Introduction**

Within the confines of American borders lives the fattest population ever to walk the earth. In the past twenty years obesity has spread like a plague, currently affecting two thirds of American adults. America, known for its plump citizens and their affection for fast food, harbors 97 million overweight or obese individuals.<sup>10</sup> The most serious aspect of the illness is the dramatic increase of chronic disease and early death in the overweight and obese. The obesity epidemic has drastically increased the prevalence of diabetes mellitus, coronary heart disease, and several cancers. The many medical costs associated with such conditions has left public health officials and politicians scrambling to find ways to trim down the ever-expanding girth of the average American.

Although America has the highest rates of obesity prevalence, the disease is no longer a localized American epidemic; in the midst of increased knowledge, awareness, and education of proper nutrition, obesity has reached worldwide pandemic proportions. Obesity now affects nearly every nation on the planet, including Asian and third world countries.<sup>49</sup> For example, Japan, known for its exceptional levels of nutrition, reported record levels of obesity in the 2000 National Nutrition Survey, stating that nearly one-fourth of Japanese adults are overweight or obese.<sup>51</sup> Third world countries such as Ethiopia and Nigeria, despite rampant levels of malnutrition, are also showing alarming increases in overweight and obesity levels.<sup>49</sup> According to the World Health Organization, obesity-related illnesses now replace traditional problems such as

undernourishment and infectious diseases as the most significant causes of poor health around the world.<sup>49</sup>

Before throwing ourselves into the battle of the bulge, we must first understand the cause of the obesity epidemic. When America first became “health conscious” in the 1950’s, nutritionists and diet-gurus considered obesity an individual problem—something independent of one’s environment that a little self-control and a jog could fix. The lean and fit were able to look indifferently upon the love-handles of their fellow citizens and with a shrug say, “not my problem.” In 1994, the discovery of the obesity (ob) gene evoked sympathy amongst the public, and the focus shifted to the physiological causes of obesity. Fat genes led to fat individuals, scientists proclaimed, and the obese were mere victims. Indicting genes as the main cause of obesity made it a government concern—a classifiable disease which should be fully covered by health insurance. Yet uncovering the DNA of obesity did not explain its overwhelming prevalence; the epidemic has grown too quickly in too short a time to blame bad genes as the culprit.

The most obvious cause of the recent rise in obesity is environment. In 2000, the World Health Organization (WHO) convened a Consultation on Obesity to determine the main contributing factors of the epidemic. The Consultation concluded that the main causes of obesity are sedentary lifestyles and high-fat diets, both of which result from “the profound changes taking place in society and the behavioral patterns of communities as a consequence of increased urbanization and industrialization.”<sup>49</sup> Therefore, obesity is a normal response to a

pathological environment. A society in which sedentary Americans, surrounded by readily available and very affordable high-fat foods, fail to get enough exercise and nutrition encourages behavior that causes obesity. Americans live in what scientists call an “obesogenic society,” meaning a society that both allows and encourages individuals to become obese. The blame, therefore, lies in the laps of both the individual and the public; individuals tacitly approve of the unhealthy environment which society has created.

The only way to defeat the obesity epidemic is to redefine the culture that permits it. Foods high in saturated and trans fats need to be less available and less affordable. Government-sponsored gyms and workout facilities need to have free public membership to encourage an active lifestyle. Programs that increase public awareness of the dangers of obesity need to be in every aspect of the media to deter Americans from living unhealthy lifestyles. The fight against obesity will not be won with any single campaign, but rather with a combination of awareness, treatment, and prevention. All of these programs, however, require significant funding. A fat tax, a tax on malnutritious foods, would provide the funds to create the health conscious environment necessary to defeat the rapid rise in obesity.

## **2.0 Definition and Discussion of a Fat Tax**

The term “fat tax” generally applies to any legislative approach to limit the consumption of malnutritious foods. Kelly Brownell, director of Yale’s Center for Eating and Weight Disorders, first proposed the idea of a fat tax in 1994. According to what Brownell calls the “Twinkie tax,” a 1 percent tax on junk food

and soft drinks could be used to subsidize healthier foods and public-awareness campaigns.<sup>7,8,9</sup> Although the food industry and the American public both strongly rejected the idea, the recent alarm at the increasing rise in obesity and its associated illnesses has caused politicians to reconsider the possibility.

There are several ways to implement a fat tax, such as a tax based only on fat content, a tax only on foods publicly recognized as unhealthy, or a tax based entirely on the total number of calories. New York Assemblyman Felix Ortiz even proposed taxing sedentary entertainment activities, such as renting movies and attending plays, to fund nutrition and exercise programs. Regardless of the kind of fat tax, the goal of the tax should be to create revenues for anti-obesity campaigns. A tax in which the collected revenue goes towards other causes merely punishes those with unhealthy lifestyles without educating them. The goal of a fat tax should be to develop a health-conscious environment.

## **2.1 Functions of a Fat Tax**

To create the needed healthy environment requires funds. A small fat tax would provide the necessary funds to create health awareness, to subsidize healthy foods, and to promote physical activity. In August of 2004, members of the Ecological Foundation in New Zealand published *Cutting the Fat: How a Fat Tax Can Help Fight Obesity*, a report aimed to explore the need for a fat tax in New Zealand. The country has the highest incidence of obesity in children, surpassing both the United States and Australia.<sup>15</sup> The report states four main reasons for a fat tax, all of which are applicable to a similar tax implementation in America:



First, according to the report, a fat tax would help finance the costs of prevention measures and future medical treatment linked to diets rich in fats and calories.

Second, because all taxed items would be branded, a fat tax would help to create a health-conscious environment in which citizens have the means to regulate their daily fat-intake. By helping consumers identify foods that are detrimental to health, a fat tax could help change long-term dietary habits.

Third, even a tax that imposes only a small burden on consumers would put pressure on food manufacturers to alter the fat content of their products and market products which are beneficial to health. A fat tax would force the industry to create healthy products that taste good.

And fourth, a tax would generate revenue that could be used to fund complementary measures, such as a major advertising campaign, to encourage consumers with excessive fatty diets to make the change to a more balanced diet.

## **2.2 The Proposed Fat Tax**

A fat tax cannot simply tax all fat, because not all fat is detrimental to health. Some fats, in fact, are beneficial and should therefore be exempt from taxation. Thus we must understand the different types of fat and their effects to design an effective and fair fat tax.

### *Types of Fat<sup>21</sup>*

- **Polyunsaturated Fats** are found mainly in vegetable sources such as sunflower seeds and soy. These fats are known to lower the levels of the “bad” cholesterol

known as low-density-lipoprotein (LDL), and thought to lower the risk of heart disease.

- **Monounsaturated Fat** is also known to lower LDL cholesterol and is found in olive oil, avocados, nuts, and most seeds. Mediterranean countries, where these foods are common, tend to have a high intake of monounsaturated fats and have a much lower incidence of coronary heart disease and cancer.
- **Saturated Fat** mostly comes from animal sources such as lard, butter, and whole milk, and is in most typical snack foods. Saturated fats are generally solid at room temperature and are very unhealthy fats. They stimulate the production of LDL cholesterol and therefore increase blood cholesterol levels and the risk of heart disease. Saturated fats raise cholesterol levels more than dietary cholesterol itself.
- **Trans-Fatty Acids** are unnatural fats made when hydrogen is bubbled through oil, and then metals such as zinc and copper are added to the fatty substance to make it solid at room temperature. The resulting substance is a grayish fat, which is then bleached and colored to create a more appealing look. Trans fats are used in processed food such as margarine, factory made cakes and pastries. They act in the body the same way as saturated fat and increase the risk of heart disease. (If the food label cites “hydrogenated vegetable oils” as a product, then it will also contain trans-fatty acids.) Trans fats are illegal in Canada and Denmark, but are used in many American fast foods.

Because only trans and saturated fats are detrimental to health, a fat tax should only collect revenue from foods containing excessive amounts of these fats.

According to Brownell, however, legislative bodies should only tax well-recognized foods that are known to have adverse health effects. As examples, he cites soft drinks and snack foods, which “typically add unneeded calories to the diet or replace nutritious foods, such as low-fat milk or fruit, without providing significant levels of nutrients.”<sup>9</sup>

Brownell’s idea of a fat tax, however, is incomplete. The goal of a fat tax should be to create revenue from products that cause damage to health. Instead, the proposed fat tax is a comprehensive tax that includes all products with high levels of saturated or trans fat, because these products strongly contribute to obesity levels as well as coronary heart disease. In addition to all foods high in “bad” fats, the tax should include well-known snack foods lacking nutrition, such as carbonated and sugary drinks. Every item that is taxed should receive a type of product branding, to alert the public of its high fat content. A small tax on these foods would not only alert the consumer to their detrimental health effects, but would also create greater revenue to deal with the rising obesity problem.

### **2.3 Administration of a Fat Tax**

At first glance, a fat tax seems very difficult to administer. Difficulty in the calculation of the fat tax arises when considering restaurants; because the fat content can vary according to the preparation, the amount of saturated and trans fats in food varies greatly at the point of sale. For example, chefs may cut off different amounts of meat in preparation, or cook with more or less butter. Thus taxing the initial product may prove unfair if the fat is later discarded. A similar situation arises in butcher shops and supermarkets.

These arguments highlight the need for simplicity in a fat tax. The tax requires multiple criteria, because a tax simply on saturated and trans fats exempts sodas and other foods with little nutritional value. Therefore, there should be two separate criteria, one based on saturated fat, and the other based on foods that are energy dense and nutrition poor. To accurately assess energy-poor foods, producers could use the energy density (ED) scale, which measures the calories in a food relative to its weight. Dr. Barbara Rolls, a leading expert on energy density, diet and nutrition, recommends not eating foods with an ED of more than 2 calories per gram (840 calories/ 100 g), however further analysis of her research would be necessary before implementation.<sup>39</sup> Because food manufacturers are already required to assess the fat content of most products, the information necessary to calculate and pay the tax is readily available.

To assess foods high in saturated fat, the easiest method is to use of the predetermined scale based on the daily reference value of 20 grams, as decided by the FDA. Foods which are high in saturated fat, meaning foods which monopolize an individual's daily intake of saturated fat, should be taxed. Further analysis should be done to determine the exact value.

#### **2.4 Financial Benefits of a Fat Tax**

Determining the exact proportion of the fat tax relative to the product has been a matter of much debate. Although a steep tax would be more likely to discourage the purchase of unhealthy foods, the probable large loss in sales would have a negative impact on the economy. A small tax, one that did not deter consumers from purchasing the item based solely on price, could still be effective.

Also, a small, comprehensive tax would still generate a significant amount of revenue and thus provide the funds necessary for an anti-obesity campaign. In a joint study by the Center for Science in the Public Interest and Yale's Center for Nutrition, researchers demonstrated the financial benefits of a small fat tax, and concluded that a national 1 cent tax on a 12-oz soft drink would generate \$1.5 billion annually.<sup>9</sup> Similarly, taxes of 1 cent per pound of candy, chips, and other snack foods, or fats and oils, would raise approximately \$70 million, \$54 million, and \$190 million, respectively.<sup>9</sup>

Because the proposed small taxes do not have a significant effect on price, consumers might more readily accept the idea of a tax. The funds could go to fund health education programs and to subsidize healthy food products. Awareness programs have proven highly effective in changing individual behavior. For example, a campaign in Clarksburg, West Virginia, encouraged consumers to switch from higher fat to lower fat milk to reduce their daily intake of saturated fat. At the conclusion of the 7-week campaign, the market share of 1% or fat free milk increased from 18% to 41%. One year later, the consumers continued to prefer the lower fat milk. The entire cost of the campaign, which took place mainly on television and radio programs, only cost each resident 22 cents, suggesting that a small tax could have a large impact on the overall level of health in America.<sup>38</sup>

#### **2.4 A Fat Tax and Supply and Demand**

The success of a fat tax depends on basic economic principles. With the revenues generated from a fat tax, the government could launch a major health

campaign to encourage the creation of a healthy society. Because of the government-funded programs, individuals would become more educated in regards to proper nutrition and make health-conscious choices. Because consumers would begin to prefer healthier alternatives, food manufacturers would have to supply the health products that the public now demands. A small fat tax would gently encourage a health conscious environment without shocking the entire economic system.

Instead of depriving Americans of their freedom, a fat tax would grant more freedom by allowing individuals to make a more informed choice. Without proper health education, an individual is enslaved to his or her ignorance. If he or she does not understand the implications of a poor diet and lack of nutrition, then he or she also lacks the freedom to make an informed choice. A fat tax would allow Americans to use their knowledge to shift the trends within their own society.

## Part II: Opposition and Rebuttal

The idea of a fat tax is wildly unpopular with most Americans. In a recent survey by the Center for Science in the Public Interest (CSPI), only 8 percent of Americans approved of a fat tax.<sup>13</sup> The majority of Americans rally behind extremists such as columnist Larry Elder, who cynically calls pro-fat tax policymakers, “tofu-eating, tree-hugging, anti-smoking, I-can-look-out-for-your-health-better-than-you-can zealots who now have a new freedom-eroding cause -- slimming down fat people.”<sup>17</sup>

There are five main arguments against a fat tax: “obesity is not a problem,” “obesity is not dangerous,” “obesity is genetic,” “targeting fat is unfair,” and “a fat tax infringes upon individual rights.” The first argument, stating that “obesity is not a problem” claims that fear of the obesity epidemic is simply the result of inflated numbers and an alarmist mentality. The second argument, “obesity is not dangerous,” claims that obesity is a natural condition and does not require treatment. “Obesity is genetic,” the third argument, implies that an individual does not have control over his or her own body weight. If the third argument were true, any campaigns aimed at behavior modification would fail. The fourth argument, which claims, “targeting fat is unfair,” states fat is being vilified as the sole cause of the obesity epidemic, which in reality has many sources. The last argument, claiming, “a fat tax infringes upon individual rights,” attempts to reject a fat tax on the basis of individual freedom, and argues that a government has no right to regulate the diets of its citizens.

Each argument either fails to grasp the severity of the problem of obesity, or fails to consider the rationale behind a fat tax. After establishing the need for, the rationale behind, and the details of a fat tax, taxation becomes the only rational response to the recent trend in obesity.

### **1.0 “Obesity is not a national problem”**

Many Americans doubt the severity of the obesity epidemic. A lack of awareness of the epidemic would cause some Americans deny the need of a fat tax. Failure to realize that obesity affects over half the nation leads to the dismissal of obesity as an individual problem. Therefore, a thorough understanding of the epidemic is crucial to the defense of a fat tax.

#### **1.1 Defining Obesity and Overweight<sup>10</sup>**

The term *overweight* refers to an excess of body weight in relation to height, when compared to some standard of acceptable or desirable weight. The excess weight is not necessarily fat, and may come from muscle, bone and/or body water. For example, a bodybuilder may be very lean and muscular, with very little body fat, yet may weigh more than others of the same height. The bodybuilder is “overweight,” however he is not “over fat.” Obesity, however, refers specifically to having an abnormally high proportion of body fat.

There are numerous methods used to determine if someone is overweight or obese, including those based solely on the relation between height and weight, as well as those based on specific measurements of body fat. The preferred measurement for most obesity researchers and physicians is the body mass index (BMI). BMI is a non-gender-specific calculation based on height and weight.



Although BMI does not directly measure the percent of body fat, it is a more accurate indicator of overweight and obesity than relying on body weight alone. A person's BMI is found by dividing a person's weight in kilograms by height in meters squared. According to the National Institute of Health, overweight is defined as a BMI of 25-29.9 kg/m<sup>2</sup> and obesity as a BMI of  $\geq 30.0$  kg/m<sup>2</sup>. Translated into relevant terms, a BMI of 30 is equivalent to a 5'4'' woman who weighs approximately 40 pounds overweight.

## **1.2 Overview of the Epidemic**

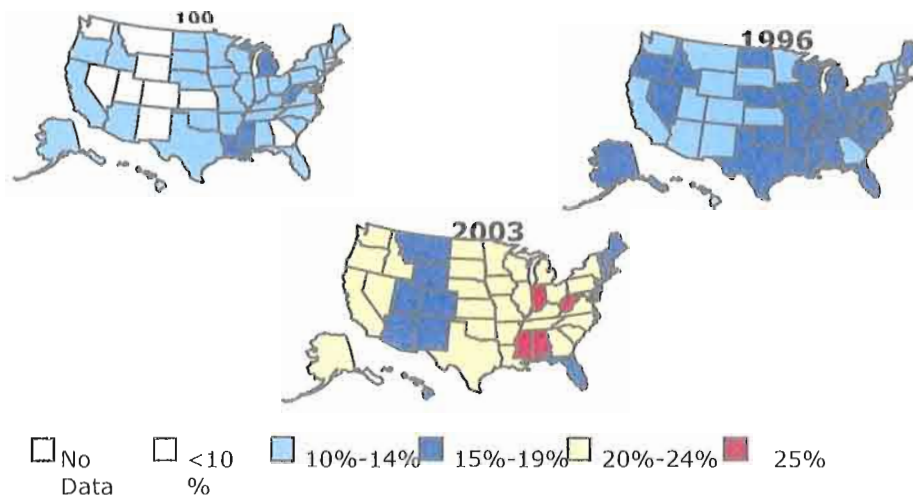
Alarming, the fastest growing group of obese Americans consists of those who are morbidly obese, meaning individuals who are at least 100 pounds overweight.<sup>10</sup> The proportion of Americans who are morbidly obese is growing twice as fast as those who are simply obese.<sup>10</sup> According to economist Roland Sturm, approximately one in 80 men weighs more than 300 pounds—a statistic which increased by 50 percent in only four years, from 1996 to 2000. Similarly, one in 200 women weighs more than 300 pounds, a number which increased by 67 percent in the same amount of time.<sup>44</sup> This finding undermines the belief of many physicians that severe obesity is a rare, pathological condition only affecting a fixed percentage of the population. Research now indicates that obesity can affect a much larger portion of the population.

In 1985, the Centers for Disease Control began a Behavioral Risk Factor Surveillance System (BRFSS) which attempted to gauge the percentage of obese persons in each state, with "obese" classified as those with a body mass index (BMI) of 30 kg/m<sup>2</sup> or more. The results of the survey are staggering (see below).

In 1991, a mere four states had populations in which 15-19 percent of the inhabitants were obese and no states had rates at or above 20 percent. 1996 shows a rapidly increasing trend of obesity, with over half of the states having an obesity prevalence of 15%-19%. The year 2003, only twelve years after the survey began, shows even more drastic change: *15 states* had populations in which 15-19 percent of the inhabitants was obese, *31 states* had obesity rates of 20-24 percent and *4 states* had rates of more than 25 percent.<sup>10</sup>

**Figure 1**

**Obesity Trends Among U.S. Adults  
BRFSS, 1991, 1996, 2003**



CDC. Behavioral Risk Factor Surveillance System (BRFSS 1985-2003) and "Economic consequences of obesity." Centers for Disease Control and Prevention, U.S. Department of Health and Human Services

The overwhelming prevalence of obesity has made the disease an issue of public health. Obesity cannot be dismissed as an "individual" problem; there are currently more people in the country with the disease than without. The issue of obesity cannot be dismissed or set aside; once Americans understand the obesity epidemic, they may be more willing to accept political endeavors to treat and prevent obesity.

### **1.2 Obesity and Children**

One of the more serious aspects of the obesity epidemic is the dramatic increase in the incidence of overweight and obesity among children and

adolescents. Using data from the National Health and Nutrition Examination Surveys (NHANES), it appears that overweight prevalence among our nation's children and adolescents doubled between 1980 and 1994.<sup>32</sup> Even more frightening are the preliminary findings from the most recent NHANES which suggest that childhood overweight continues to increase.

The incidence of obesity of children has led to early signs of heart disease in young children. Some children are what medical professionals term “pre-obese” meaning they show signs of becoming obese adults. Many “pre-obese” children are of an average weight and yet have clogged arteries or high blood pressure. A recent study involving 3200 randomly selected American children revealed that one in seven children has three or more risk factors for “metabolic syndrome”—meaning the child is predisposed to heart disease and diabetes—and over half of the children had at least one risk factor.<sup>20</sup> Metabolic syndrome is diagnosed based on 5 possible risk factors, including high blood pressure, low levels of high density lipoprotein (HDL) cholesterol, elevated triglyceride levels, elevated insulin levels, and elevated glucose intolerance. Girls seemed to be especially at risk, as they were 50 per cent more likely to have three risk factors.<sup>20</sup>

In an address to the American Heart Association, Joanne Harrell, PhD, who led the study, stated “these were regular, normal kids, but we found risk factors that are clear danger signs for the future. If nothing is done, a good number of these children could develop type 2 diabetes or heart disease.”<sup>5</sup> According to Harrell's study, America's obesogenic environment predisposes children to poor health later in life. The frightening conclusion of such statistics

is that the obesity problem the world faces today will only get much worse in the future.

### **1.3 Financial and Social Costs of Obesity**

Obesity and its associated health problems have had a significant economic impact on the U.S. health care system. Medical costs associated with an overweight or obese individual can include both direct and indirect costs. Direct medical costs refer to the diagnosis and treatment of individuals who are already obese or overweight, and include treatment for obesity-related illnesses. Therefore, a doctor visit in which an obese individual receives medication for blood pressure, joint pain, and diabetes all fall under the direct costs of obesity. Indirect costs refer to costs resulting from lost income due to decreased productivity of the overweight or obese. Thus sick days, late arrivals, and restricted activity at work due to poor health all comprise the indirect costs of obesity. Indirect costs can also refer to the value of future income that is lost due to premature death.

A new study by researchers at the Centers for Disease Control estimates that U.S. obesity-attributable medical expenditures reached \$75 billion in 2003.<sup>10</sup> Taxpayers financed about half of these costs through Medicare and Medicaid, paying a total of approximately \$39 billion, or \$175 per person. Because of the wide variety of illnesses of obesity, obesity-related expenses have now exceeded those of smoking. Total state-level expenditure estimates in 2003 dollars range from \$87 million in Wyoming to \$7.7 billion in California.<sup>48</sup>

The true cost, however, is the degrading health and unnecessary loss of life. Dr. Julie Gerberding, CDC director, states that “the long-term effects of obesity on our nation’s health and on our economy should not be underestimated.”<sup>10</sup> Because of the detrimental effects on the quality of life resulting from the epidemic, the problem of obesity has surpassed a mere individual issue. Although all of America is not obese, all of America is paying for the cost of obesity. A fat tax would provide a reasonable means to fund programs to treat the currently obese and create prevention programs in the future.

## **2.0 “Obesity is not dangerous”**

Most Americans seem to agree that to be overweight is unhealthy, yet few would deem a few extra pounds “dangerous.” Those who endearingly chuckle at their love handles or shrug at their ever-expanding gut fail to realize the dangers associated with having too much body fat. Comprehending the dangers associated with obesity encourages prevention.

### **2.1 The Dangers of Obesity**

Obesity is associated with more than 30 medical conditions, and scientific evidence has established a strong relationship with at least 15 of those conditions.<sup>32</sup> (See NHANES table below). Research studies have shown that obesity increases the risk of developing many health conditions including type 2 diabetes, hypertension, coronary heart disease, ischemic stroke, colon cancer, post-menopausal breast cancer, endometrial cancer, gall bladder-disease, osteoarthritis, and obstructive sleep apnea.

**Figure 2**

i				
Medical Condition	Body Mass Index			
	18.5 to 24.9	25 to 29.9	30 to 34.9	≥ 40
Prevalence Ratio (%)				
Type 2 Diabetes	2.03	4.93	10.10	10.65
Coronary Heart Disease	8.84	9.60	16.01	13.97
High Blood Pressure	23.47	34.16	48.95	64.53
Osteoarthritis	2.59	4.55	4.66	10.04
Source: NHANES III, 1988 - 1994.				
Table 2: Prevalence of Medical Conditions by Body Mass Index (BMI) for Women				
Medical Condition	Body Mass Index			
	18.5 to 24.9	25 to 29.9	30 to 34.9	≥ 40
Prevalence Ratio (%)				
Type 2 Diabetes	2.38	7.12	7.24	19.89
Coronary Heart Disease	6.87	11.13	12.56	19.22
High Blood Pressure	23.26	38.77	47.95	63.16
Osteoarthritis	5.22	8.51	9.94	17.19
Source: NHANES III, 1988 - 1994.				

National Health and Nutrition Examination Survey (NHANES 1999-2000), National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Service.

According to the above table, there is a positive correlation between BMI and the likelihood of illness. Although the table seems to state a fairly obvious fact, (the fatter the individual, the poorer the health) the findings are significant to

taxpayers. Because the recent trend is not to simply gain a few pounds, but rather to become morbidly obese, Americans are spending billions of dollars in taxes to programs like Medicare and Medicaid to cover the growing medical costs of obesity.

## **2.2 Obesity and Type II Diabetes**

The most common illness associated with obesity is type II diabetes. Type II diabetes is a long-term condition in which the cells no longer respond to insulin. Insulin is a hormone that helps the body use glucose (sugar). Insulin takes glucose from the blood and brings it into the cells, which then use the glucose as fuel. Type II diabetes begins when glucose builds up in the blood instead of entering into the cells. In turn, the cells become starved for energy and the body responds by producing more insulin and the kidneys remove the excess glucose from the blood. Eventually, the insulin-making cells get exhausted and begin to fail.<sup>21</sup> The long term effects of diabetes include kidney damage, blindness, and nerve damage.

The current obesity epidemic is causing an epidemic of type II diabetes. Approximately 80% of people with Type II diabetes are obese.<sup>31</sup> Although the biochemical link between obesity and diabetes is not exactly understood, the most recent theory is the idea that being overweight stresses the insides of individual cells. Specifically, overeating stresses the endoplasmic reticulum (ER), which is the membranous network inside the cells. When the ER is oversaturated with nutrients, it sends a biochemical signal to the outer cell wall to dampen the insulin



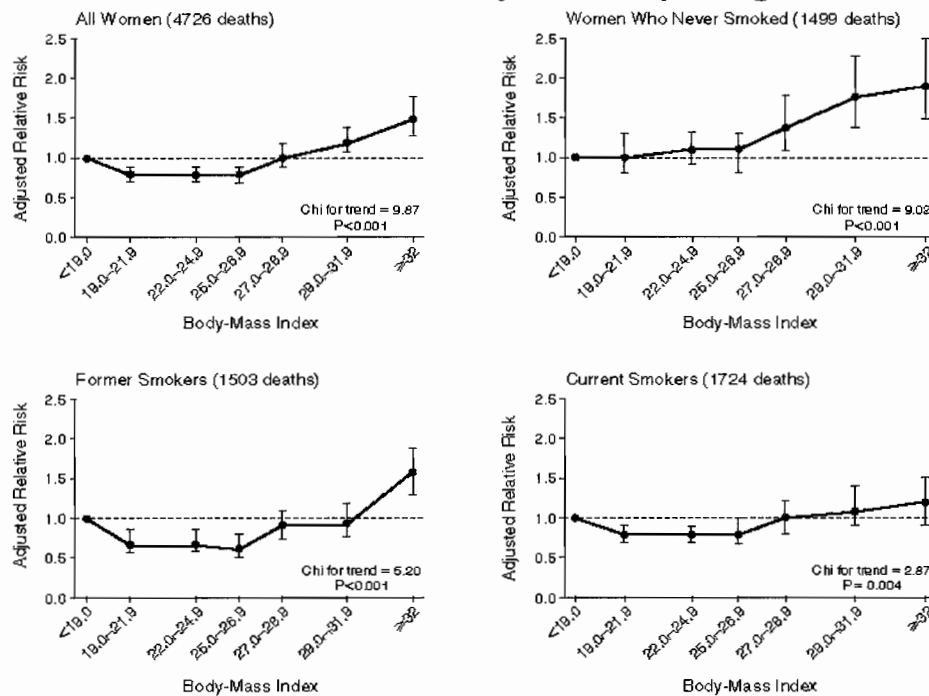
receptors on the cell surface, eventually leading to insulin resistance and high levels of blood glucose levels.<sup>31</sup>

Although Type 2 diabetes can result from genetic factors, the recent rapid increase of the disease indicates that lifestyle plays an especially important role. Lifestyle factors that could cause diabetes include eating excessive amounts of saturated fat, lack of physical activity, and being overweight or obese.<sup>50</sup>

### **2.3 Obesity and Increased Mortality**

Severe obesity is undisputedly associated with increased mortality. However, recent studies are now showing that overweight and mildly obese individuals also have increased risk of early death.<sup>41</sup> In a study published in the *New England Journal of Medicine*, researchers found a positive correlation between body mass index and mortality. The study monitored 115,195 American women, ages 30-55 for 16 years.<sup>27</sup> All of the women were free of detectable cancer and cardiovascular disease when the study began. During the 16-year research period, 4726 women died; 881 died of cardiovascular disease, 2586 from cancer, and 1259 from other causes.<sup>27</sup> (see Figure 3)

**Figure 3**  
**Relation of Mortality and Body Weight**



After researchers made adjustments for smoking, they found an undeniable correlation between BMI and mortality (see top right graph). The results showed that mortality was lowest among women with body-mass indexes from 19.0 through 26.9 kg/m<sup>2</sup>, with the lowest mortality belonging to the leanest women who had never smoked. Simply put, women who weighed less lived longer. As the BMI of an individual increases, the results seem to show a gradual increase in mortality, with the most significant increases occurring at a BMI of 27.0 kg/m<sup>2</sup> and above. After a BMI of 27, early death seems very likely. The mortality among obese women (BMI greater than 29.0) was twice that of the leanest women.

The study also showed that individuals who were overweight or obese were more likely to die from other diseases, such as cancer or cardiovascular

disease. According to the study, a weight gain of only 22 pounds or more since the age of 18 led to increased mortality due to cardiovascular disease, cancer, and other causes. Thus even moderate weight gain has a significant impact on health and lifespan.

### **3.0 “Obesity is genetic”**

Much of the research of today seems to indicate that the individual has very little control over his or her body weight. Scientists and nutritionists alike refer to a physiological “set point” that is unique for every individual. If the problem of obesity were entirely genetic, then implementing a fat tax would be useless—no tax can change bad genes to good genes. Therefore, we must understand what scientists mean when they refer to a physiological set point.

#### **3.1 The Physiological “Set point”**

A key element in the physiological system regulating body weight is the hormone leptin. Leptin is produced by fat tissue, and reports nutritional information to regulatory centers in the hypothalamus. When an individual starts to lose body fat, they produce less leptin. When leptin levels drop, the appetite is triggered, resulting in increased food intake. Thus an individual who is losing weight becomes hungry more often. The response to decreased leptin levels is very similar to the response triggered during starvation. Conversely, when the individual gains bodyweight in the form of fat, there is an increase in the levels of leptin, which in turn satiates the appetite and reduces food intake.<sup>19</sup>

## Figure 4 Leptin and the Regulation of Adipose Tissue Mass

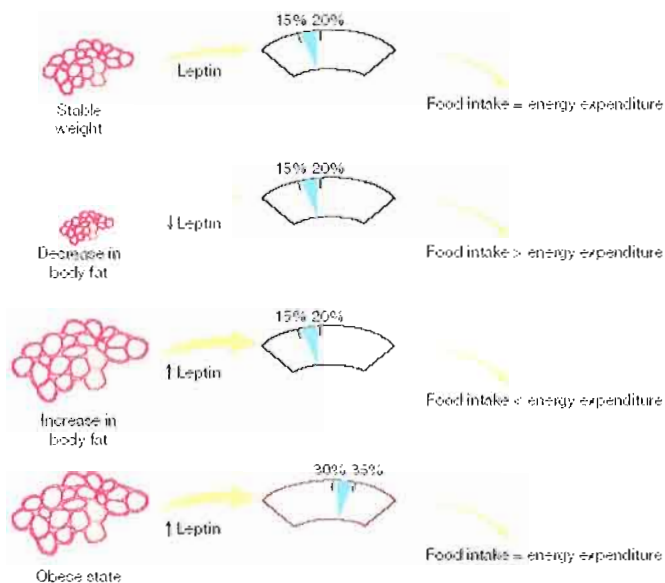


Figure 1 Leptin and the regulation of adipose tissue mass. The cloning of the *ob* gene and the characterization of leptin has indicated that body fat content is under homeostatic control. The available data suggest that leptin is the afferent signal in a feedback loop regulating adipose tissue mass. At an individual's stable weight (shown as 15–20% body fat in this figure, which is the typical fat content of a non-obese subject) the amount of circulating leptin elicits a state in which food intake equals energy expenditure. Increasing leptin levels result in negative energy balance (energy expenditure  $>$  food intake), whereas decreasing levels lead to positive energy balance (food intake  $>$  energy expenditure). These effects maintain constancy of fat cell mass within a relatively narrow range. Evidence further suggests that the intrinsic sensitivity to leptin is reduced among the obese and that the set point for body fat content is thus increased (designated as 30–35% in the bottom panel). Most obese individuals have high leptin levels and thus enter a state of negative energy balance when weight is reduced and leptin levels fall.

Obesity in the new millennium. J. R. Friedman. *Nature*, Volume 404, April 6, 2000.

Therefore, due to the biological system involving leptin, bodyweight is usually maintained within a relatively narrow range, and losing weight is extremely difficult. When the individual makes a voluntary effort to reduce his weight from his “setpoint,” his attempts are resisted by compensatory biological responses. Weight loss is met with a decrease in metabolism and an increase in hunger.<sup>18</sup> For this reason, most people who attempt to lose weight tire in the battle against their genes and return to their original weight.

### 3.2 Genetics Versus Environment

Leptin sensitivity, which may determine an individual's weight setpoint, is highly variable among individuals. In general, obese individuals are leptin-

resistant. A smaller subset of individuals seems to produce too little leptin.<sup>6</sup> The reason for leptin-resistance is not entirely known. However, it is theorized that genetic, *environmental*, and even psychological factors could influence leptin sensitivity or leptin production. Environmental factors have been shown to affect leptin sensitivity. For example, a high-fat diet leads to leptin resistance. Therefore, individuals who constantly eat foods high in fat find their bodies do not respond as well to its own innate system of appetite control. Thus the causes of obesity are multi-factorial; genetics may load the gun while environment pulls the trigger. A change in environment would provide the means for individuals to begin a healthy weight loss routine.

An excellent example of the interactive role of genetics and environment in determining obesity is two groups of Pima Indians who have the same ancestors and yet live in different locations; the first group lives in Arizona and the second in the Sierra Madre Mountains in Mexico.<sup>33</sup> In Arizona, the Pimas have a long history of obesity and its associated illnesses; including high cholesterol and diabetes (almost 50 percent of the population suffers from diabetes).

The Pimas in Mexico live drastically different lifestyles than those in Arizona. In Mexico, food is sparse and manual labor is mandatory for survival. These southern Pimas tend to be lean and have a much lower rate of diabetes than in Arizona. Yet despite the differences in lifestyles, the Mexican Pimas still have higher obesity and diabetes rates than the surrounding population.

Important to note is that despite their genetic commonality with the Northern tribe, Mexican Pimas who lived a healthier lifestyle showed fewer signs of obesity and its associated health problems. Genetics may have predisposed the tribe to obesity, which explains the higher obesity prevalence than the surrounding area, yet their environment determined the degree to which obesity influenced the culture. When considering an action plan to defeat obesity, Americans must take steps that will redefine the accepted level of health in our culture.

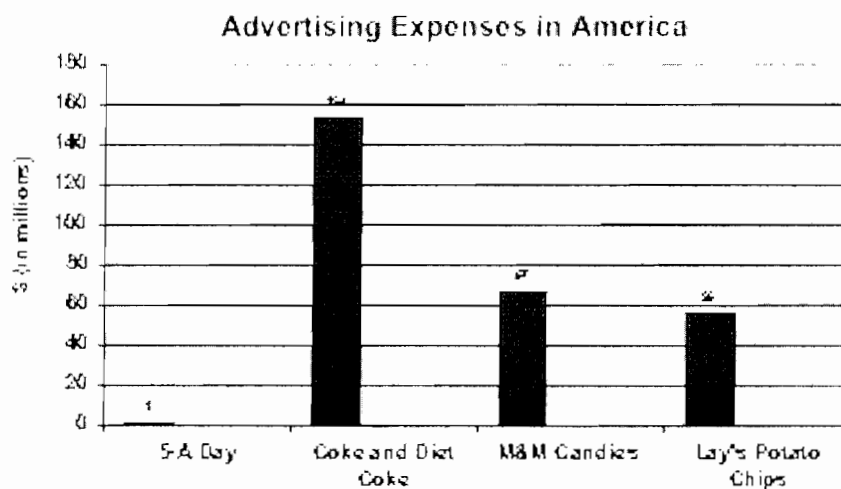
### **3.3 Indicting the Macro-Environment**

Biological factors can explain the variance of body fat in individuals living in the same environment, but they cannot explain the rapid increase in obesity in the total population. Widespread obesity is a normal response to a pathological macro-environment. According to Gary Egger of the Center for Health Promotion and Research, “the macro-environment determines the prevalence of obesity in a population and the micro-environment, along with other biological and behavioral influences, determines whether an individual is obese.”<sup>16</sup> Egger defines the macro-environment as the accepted social environment, including foods that are readily available, and the general promotion, or lack thereof, of healthy living within a society. In America, fast food and other malnutritious foods are readily available and highly affordable to the general public, creating a dangerous macro-environment.

In a country where 2/3 of the population is overweight or obese, one might safely point the finger of blame at the “macro-environment.” In America, there

are not enough programs that promote healthier diets and physical activity. Even the largest nutrition education programs receive negligible support. For example, the National Cancer Institute spends only \$1 million annually on the media component of its 5-A-Day campaign to encourage more people to eat fruits and vegetables.<sup>1</sup> The soft drink industry spends more than 600 times that much on advertising each year. Other industries spend equally significant amounts on annual advertising: the restaurant industry spends more than \$3 billion; Coke and Diet Coke are supported by \$154 million; M&M candies by \$67 million; and Lay's Potato Chips by \$56 million. The advertising for healthy food pales in comparison.<sup>1</sup>

Figure 5



Data From: 100 leading national advertisers. *Advertising Age*, 27 September 1999: S1-S46

America has created what Kelly Brownell of Yale calls a “toxic food environment”—an obesogenic society, in which physical activity is scarce and high-starch, high-fat, high-sugar foods are plentiful and affordable. Brownell

calls such a combination “a recipe for disaster.”<sup>7</sup> He calls for a national diet, in which mal-nutritious foods scarce and unaffordable. “It’s time to acknowledge that the efforts of individuals are not enough,” says Brownell. He suggests not only a tax on unhealthy foods but also a subsidy for healthy ones, like whole grains and fresh produce.

America needs to create the healthy environment nutritionists have been encouraging for years: eat a variety of fruits and vegetables, lots of grains, and keep fat and sugar to a minimum. Most people understand the need to eat healthy and exercise, yet the society in which they live does not promote such a lifestyle. An example of the lack of change is shown in the *Report on Nutrition Monitoring in the United States*, in which there was almost no change in the percentage of school children who fail to get enough fruits and vegetables in their diets, despite the increasing push for healthier diets (see Figure 6).<sup>12</sup> Awareness is simply not enough. America must restructure its food environment to give health awareness efforts a fighting chance.



**Figure 6**

CDC. Report on Nutrition Monitoring in the United States. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, National Center for Health Statistics. April, 2000.

#### **4.0 “Targeting fat is unfair”**

Another argument against a fat tax is the understanding that fat, in and of itself, does not promote poor health. Other factors, including lack of exercise and diets high in sodium, cholesterol, and sugar contribute to the obesity epidemic. Although other factors do contribute to the rise of obesity, the relationship between the increasingly available fat-rich diets and the corresponding rise in obesity cannot be denied. Because fat is the most energy-dense food, and obesity is often the result of excessive calorie consumption, fat becomes a logical target. The undeniable relationship between fat and obesity, as well as the recently discovered dangers of a diet high in fat, merits a tax on fat.

#### **4.1 The Addictive Nature of Fat**

Most people are aware of foods that are high in fat content and of the consequences of a diet high in fat. However, this knowledge has resulted in very little reduction of the fat intake of most people. To help trim America's ever-expanding waistline, there must be a drastic overhaul of today's culture, specifically the availability of high-fat foods.

Dr. Sarah Leibowitz, a neurobiologist at Rockefeller University, has done several tests on rats which seem to show the addictive nature of diets high in fat.<sup>25,26</sup> According to her research, rats which consume a diet high in fat become more resistant to leptin, and thus their bodies do not as readily receive the chemical impulse to stop eating. Interestingly, the rats also showed increased levels of galanin, a brain peptide that stimulates eating and slows down the expenditure of energy.<sup>25</sup>

Although Dr. Leibowitz was reluctant to make any definitive conclusions, her research indicates that exposure to excessive fatty foods might reconfigure the hormonal system to crave more fat. If true, then children who regularly consume foods high in fat may form a type of "addiction" for fatty foods.<sup>26</sup>

#### **4.2 Fat and Memory Loss**

Recent studies are currently showing that trans-fats and saturated fats may lead to memory loss and cloud cognitive processes. Anne Granholm, PhD, and her research team at the Medical University of South Carolina, investigated the effects of a diet high in cholesterol and hydrogenated fats on the memory of 16 month old rats (an age which approximately corresponds to 60 years and older in

humans).<sup>34</sup> Granholm conducted an eight week study with two separate groups; a control group with a normal fat diet of 12 percent soybean oil (unsaturated fat), and an experimental group with a high trans-fat diet, containing 10 percent hydrogenated coconut oil and 2 percent cholesterol. A similar diet for humans would be a very high risk for heart disease.

The rats on the high-fat, high-cholesterol diet showed considerably worse levels of health—they had higher total cholesterol levels and higher levels of plasma triglycerides. The weight gain and food consumption was the same for both groups. After two weeks on their separate diets, the rats were tested in a water-filled maze in which they were required to remember the position of submerged platforms within the maze. Researchers tested their working memory by shifting the location of platforms, and their reference memory by leaving crucial platforms stationary.

Rats on the trans-fat diet learned much more slowly and made many more errors, especially as the difficulty of the task for their working memory increased. Even more alarming, rats on the high trans-fat diet actually showed signs of physical damage in the hippocampus, the region of the brain that is important for learning. The extreme dangers of saturated and trans fats make them an appropriate source of revenue to fund an anti-obesity campaign. The goal of a fat tax is not to punish individuals with a sweet tooth, but rather to educate the general public.

At the Society for Neuroscience meeting in San Diego, California, Granholm stressed that these findings were the result of a pilot study, and thus it

is not clear whether these changes are temporary or reversible. Barry Levin, MD, an expert on obesity from the Veterans Affairs Medical Center in New Jersey, commented on the significance of these studies, stating that the United States is “in the midst of an obesity epidemic” and Granholm’s research “shows that diets high in fat are a risk factor for not only heart disease, hypertension, and diabetes, but for cognitive decline as well.”<sup>32</sup>

Researchers Verendra Halagappa, PhD, and Mark Mattson, PhD, of the National Institute of Aging found similar results.<sup>42</sup> These scientists divided young adult male mice into four groups according to their diet: normal (control) diet, high-saturated fat diet, high-sugar diet, and a diet high in both saturated fats and sugar. The mice were kept on their perspective diets for four months. Out of the four groups, mice on the high-fat diet or the diet high in saturated fat and sugar gained significantly more weight than the other two groups.

Halagappa’s mice also completed a maze task to test their learning and memory, and his results coincided with those of Granholm: the mice that had high-fat diets and high-fat, high sugar diets showed a decreased ability to learn and remember the maze. Of his results, Halagappa states, “These results provide direct evidence that fast food diets, particularly a diet high in saturated fats, can have an adverse effect on learning and memory.”

Curious to know the physiological effects of the results, Halagappa and Mattson further investigated the effect of a high-fat diet on the nerve cells involved in learning and memory. They conducted an experiment in which the mice in the four different diet groups were exposed to a neurotoxin called kainic

acid, a substance known to damage nerve cells in the hippocampus region. The mice on the control diet and the high-sugar diet showed a small amount of memory loss. However, the memories of mice on the two diets containing substantial amounts of fat were severely impaired by the neurotoxin.

Halagappa concluded that his findings show that “fast food diets impaired memory acquisition in mice and made their brains more vulnerable to kainate-induced cognitive dysfunction.” If similar diets have the same effect on humans, then high-fat diets may impair one’s memory and decrease their resistance to age- and stress-related cognitive impairment.

#### **4.3 Fat and the Heart**

Saturated and trans fats are the main dietary cause of high blood cholesterol; they raise blood cholesterol levels more than twice as much as dietary cholesterol. A high blood cholesterol can lead to atherosclerosis, a condition in which the arteries become clogged. 37 million American adults can have high blood cholesterol levels, and 105 million have cholesterol levels higher than desirable. Thus approximately 142 million Americans, or one half of the adult population, are currently on their way to heart disease.<sup>22</sup>

When cholesterol becomes too high, the likelihood of developing fatty deposits within the blood vessels increases. This causes a narrowing of the arteries, which impedes the flow of blood to the heart and causes a condition called atherosclerosis. If the arteries affected are those that supply blood to the heart, then the heart will not receive enough oxygen-rich blood, increasing the risk of a heart attack.<sup>22</sup> If the arteries affected are those leading to the brain, there

is an increased risk of stroke. Atherosclerosis can begin in childhood, and in American children as young as two years old show the beginning of the disease.<sup>5</sup> Due to the enormous health risks that come from excessive consumption of saturated fat, it is reasonable to collect revenue from such foods to promote an overall healthy diet.

### **5.0 “A fat tax infringes upon individual rights”**

Opponents of a fat tax argue that the government should not have the power to regulate the diets of its citizens. This argument, however, fails to consider that the purpose of a democratic government is to both protect and represent its citizens. Currently, the government regulates tobacco and alcohol because they are harmful substances that endanger the population. Tobacco, because it is the more dangerous of the two, is more strictly regulated. Because the illnesses associated with obesity have proven to be just as dangerous as those associated with tobacco, and are more costly, the government has a right to intervene and protect its citizens. Those who deny the need of a fat tax deny the severity of the problem of obesity in America.

The argument also ignores the pre-existing voter-approved taxes on soda and snack foods. Currently, 17 states and the District of Columbia have placed sales taxes on soft drinks and snack foods (see Figure 7), however the collected revenue goes to general funds rather than an anti-obesity campaign.<sup>9</sup> Therefore, in the development of a comprehensive fat tax which included saturated and trans fats, soda, and snack foods, half of the tax has already been designed. The fat tax

would simply expand upon the sales tax already in place and direct revenue towards an anti-obesity campaign.

Figure 7

Table 1—Current Soft Drink and Snack Food Taxes

State or Locality	Year Enacted or Effective	Sales or Other Tax Specifically Applied: Representative Foods Taxed	Annual Income (\$)	Use of Revenues/Notes
Arkansas	1992	\$0.21 per gal of liquid soft drink; \$2 per gal of soft drink syrup	40,435,799	Funds Medicaid; tax also approved on a ballot initiative in November 1993
California	1993	Sales tax (7.25%) on soft drinks	219,000,000 (estimate)	General funds
Chicago	1998	Distributors pay 2% on sales of containers, 3% on syrups	8,218,976	General funds
District of Columbia	1999	Sales tax (8.75%) on snack foods, soft drinks	4,000,000	General funds
Illinois	Mid-1980s	Full sales tax (6.25%) on soft drinks (other foods taxed at 1%, 2%)	69,000,000	General funds
Indiana	1989	Sales tax (5%) on candy, gum, soft drinks, bottled water, dietary supplements	49,000,000	General funds
Kentucky	1972	Sales tax (6%) on candy, gum, soft drinks	24,000,000	General funds
Maine	1991	Sales tax (5.6%) on snack foods, soft drinks, carbonated water, ice cream, toaster pastries	14,000,000 (state's estimate of snack food items added under 1991 law)	General funds
Minnesota	1982	Sales tax (5.5%) on candy, carbonated drinks, fruit drinks (not containing any fruit juice), chewing gum, single-serve ice cream	45,000,000 (estimate)	General funds
Missouri	1982	\$0.009 per gal of soft drinks produced	40,000,500,000	General funds (for health department inspectors of bottling plants)
New Jersey	1986	Sales tax (6%) on candy, carbonated soft drinks	67,000,000	General funds
New York	1989	Sales tax (7.8%) includes average of 3.5% for local jurisdictions on soft drinks, candy, confectionery, fruit drinks with less than 70% natural fruit juices	209,000,000 (state's estimate)	General funds
North Dakota	1989	Sales tax (5%) on candy, chewing gum, carbonated beverages, soft drinks with less than 60% fruit juice, powdered drink mixes	5,000,000 (estimate)	General funds
Puerto Rico	1984	\$0.04 per case (24 12 oz cans) of soft drinks, soda water, mineral water, beer paid by wholesaler	700,000	General funds (but originally earmarked for environmental management, litter control)
Tennessee	1989	1.5% (increased in 1991 from 1.2%) of gross receipts from soft drinks and soft drink ingredients paid by manufacturers and bottlers	11,000,000	21% for highway litter control (beginning in 1981)
Texas	1961	Sales tax (6.25%) on carbonated and noncarbonated packaged soft drink beverages, diluted juices, candy	100,000,000 (state's estimate for soft drinks only), 50,000,000 (estimate for candy)	General funds
Virginia	1977	Small excise tax on wholesaler and distributor based on total sales of carbonated soft drinks	23,000	Litter control and recycling fund
Washington	1989	\$1 per gal of syrup	9,000,000	Violence prevention and drug enforcement
West Virginia	1961	\$0.01 per half L of carbonated and noncarbonated soft drinks, fruit drinks, and chocolate milk and \$0.80 per gal of syrups paid by manufacturers or wholesalers	12,390,000	West Virginia University medical, dental, and nursing schools

Note: Data were derived from state and local tax departments and from the *State Tax Handbook* (Chicago, Ill: Commerce Clearing House).

Estimates were provided by the Center for Science in the Public Interest (except where otherwise noted) based on projected annual sales of soft drinks and candy.



## **6.0 “A fat tax is unfair to low-income households”**

People who live on lower incomes spend a higher proportion on food, therefore a fat tax would have a direct effect on the low-income families. However, because the proposed tax is very small, there should be little direct effect on the overall level consumption of products. Also, staple foods, when no healthier option is available, would be exempt from the tax. Thus items such as flour, which has a high energy density, would be exempt from the tax. The tax would include items such as whole milk, cream-based soups, or processed yogurts which are extremely high in saturated fat.

Authors of a proposed fat tax in New Zealand discussed the possibility of granting lower-income families reduction in income taxes if officials thought the fat tax would place a burden on the poor. Brownell suggested using a fat tax to subsidize fruits and vegetables, which would benefit low-income families. Thus a fat tax would actually benefit low-income families by encouraging the purchase of similarly priced, healthier options. Because there are many options to both protect lower-income families and to implement a fat tax, American public should not reject the tax solely on basis of concern for discrimination.

### Part IV: Using the Anti-Tobacco Policy as a Model

The federal tax on tobacco closely resembles the proposed tax on saturated and trans fats. Smoking and obesity are the two major public health concerns, both creating huge financial burdens. Smoking and obesity both cause severe illnesses, including cancer and increased morbidity; and are especially dangerous to children. Smoking is chemically addictive and research now suggests that fat may be addictive in nature.

**Figure 7**

### Similarities Between Smoking and Obesity

<b>Epidemic Proportions</b>	23 % of population smoke <sup>47</sup>	60% of population obese <sup>10</sup>
<b>Healthcare Costs</b>	Smoking raises a person's healthcare costs by 21% and medication by 28% <sup>47</sup>	Obesity raises a person's healthcare costs by 36% and medication costs by 77% <sup>10</sup>
<b>Addictive</b>	Nicotine proven addictive in 1988 <sup>11</sup>	Fats proving to be addictive in nature <sup>25</sup>
<b>Main Associated Illnesses</b>	Lung cancer, Ischemic Heart Disease <sup>47</sup>	Diabetes, Chronic Heart Disease, Breast Cancer <sup>10</sup>

Because the two epidemics closely resemble each other, the approach to the anti-obesity campaign has strongly resembled that of the anti-smoking campaign. Therefore, an understanding of the government's regulation of tobacco provides the logic necessary to accept governmental regulation of fat.

### **1.1 Dawn of the Anti-Smoking Campaign.**

50 years ago, the strict regulations on tobacco were just as unthinkable as the proposed fat tax is now. Knowledge of the dangers of tobacco was not officially acknowledge by the Surgeon General until January 11, 1964. On this date, Luther Terry, M.D., Surgeon General of the United States Public Health Service, released his *Advisory Committee Report on Smoking and Health*. According to his report, cigarettes caused lung cancer, laryngeal cancer, chronic bronchitis, and was a health hazard “of sufficient importance in the United States to warrant appropriate remedial action.”<sup>11</sup> Because public health officials worried that the release of the news might cause riots, the Surgeon General release the report to a handful of select press representatives while that sat locked in an auditorium of the state department. The Committee and press members were given full protection: security guards manned every exit and surrounded the auditorium. Within hours, newspapers began work on what was later deemed the greatest story of 1964, announcing the shocking and conclusive news: cigarettes are bad for health.<sup>11</sup>

When the threat to health was known, the Surgeon General’s aforementioned “remedial action” began to take affect. Within a year, Congress adopted the Federal Cigarette Labeling and Advertising Act. In 1969, the Congress passed the Public Health Cigarette Smoking Act of 1969.<sup>11</sup> These laws required a health warning on cigarette packages, banned cigarette advertising in the broadcasting media, and called for an annual report on the health

consequences of smoking. The adverse effects on health were enough to merit political action towards smoking. Knowledge that nicotine was addictive was not conclusive until 1988, yet Congress took drastic action simply because cigarettes were detrimental to health

The threat of obesity is just as dangerous as that of tobacco, and yet Congress seems much more hesitant to pass legislation which would place limitations on the production of fat. The soft drink and snack food industries, much like the tobacco industry, strongly oppose and have campaigned against taxes on their products. Because of this reason, 12 cities, counties, or states have either reduced or repealed their taxes on snacks (see Figure 9).

For example, in 1993, an agreement was reached between Coca-Cola and the state legislature of Louisiana in which Coca-Cola agreed to build a bottling facility which would supply many jobs and create revenue for the state, in exchange for a repeal of the sales tax on their soft drink.<sup>12</sup> Legislative bodies passed anti-tobacco legislation, despite the tobacco industries influence, because they were convinced of the dangers of tobacco. Therefore, in order to instate a fat tax, public health and government officials must be convinced of the dangers of saturated and trans fats.

Figure 9

Table 2—Repealed Soft Drink and Snack Food Taxes

State or Locality	Year Enacted	Year Repealed	Tax	Annual Income (\$)	Use of Revenue/ Background of Repeal
California	1981	1982	Sales tax on snack foods	210,000,000 (state estimate)	General funds; expenditure paid tax was hard to administer because of the unclear definition of which foods to tax; tax is now limited to soft drinks
Louisiana	1984	1987	\$0.06 (reduced to 1.20¢ in 1993) added to tax on bottled soft drinks and syrups	13,000,000	General funds; in 1993 law recouped tax from 1987 to 1993; item fair receipt of a better contract to build a facility worth \$50 million or more; Gov. Co. agreed such a contract in 1997
Maryland	1982	1987	Excise tax applied to snack foods sold anywhere	1,000,000 (state estimate)	General funds; Fr. way frustrated not to be of a planned local plant if tax was not repealed
Baltimore City, Md.	1989	1987	\$0.02 per soft drink container < 16 oz.; \$0.04 per container > 16 oz.	6,000,000	General funds; bottlers' refusal; distributor union; of employees in these industries backed by soft drink co-ops; argued that tax caused loss of jobs to downtown areas
Baltimore County, Md.	1989	1981	\$0.02 per soft drink container < 16 oz.; \$0.04 per container > 16 oz.	4,000,000	General funds; pressure from soft drink industry
Montgomery County, Md.	1977	1987	\$0.02 to \$0.09 per 16 oz. soft drink depending on size	3,500,000 / 7,000,000	General funds; opposition because beverage prices were higher than in surrounding jurisdictions
Mississippi	1980	1982	\$0.10 (reduced to 3¢ in 1986) on wholesale value of soft drinks, artificial fruit drinks, bottled tea	8,000,000	Food and beverage industry lobbying
New York	1980	1984	\$0.02 per drink, non-reduced to \$0.01 in 1996 on carbonated soft drinks and waters	50,000,000 / 5,000,000	Enabled to fund environmental bonds; went to general funds because bonds were not approved; strong soft drink lobby helped end the tax
North Carolina	1980	1980	\$0.01 per bottle; 3¢ per gal of syrup in 16 oz. cans; 1¢ per gal of bottled drinks bases	40,000,000	General funds; soft drink bottlers' association lobbied for repeal
Ohio	1983	1984	\$0.048 per oz. carbonated beverages; \$0.04 per gal of syrup	59,600,000	General funds; soft drink industry got conditional amendment to repeal the soft drink tax on the table; line spent about \$7 million in advertising campaign to defeat the tax
South Carolina	1981	1987	\$0.01 per 12 oz. can of soda; \$0.03 per gal of syrup	23,600,000	General funds; soft drink bottling industry lobbying
Washington	1989	1984	\$0.01 per 12 oz. can	14,000,000	Violence prevention and drug environment; defeated in complex, acerbic and protracted effort; later bottles probably phased out

Note: Data were derived from state and local tax departments and from the State Tax Website (<http://www.ohio.gov/llb/Commerce/Ohioing/ohio.htm>).

Taken from: Brownell, K, Jacobson, M. Small taxes on soft drinks and snack foods to promote health. *American Journal of Public Health*. 2000;90:854-857

## 1.2 Anti-Tobacco Policy in America

Although in recent years there has been an increase in nationally funded smoking education programs, most campaigns to reduce smoking have been initiated at the state level. Several states have indoor air laws which prohibit smoking in all public and private workplaces throughout the state, including restaurants, bars, and hotels.<sup>2</sup> Clean indoor air laws prohibit smoking in all public places, especially in healthcare institutions, schools, daycare centers, and workplaces. All federally-funded schools and children's facilities have been smoke-free environments since 1995. The state and federal control of tobacco use has proved incredibly effective in improving the overall health of Americans; for example, a smoking ban in Helena, Montana, produced a 40 percent decrease in hospital admissions for heart attacks in a six-month period.<sup>2</sup>

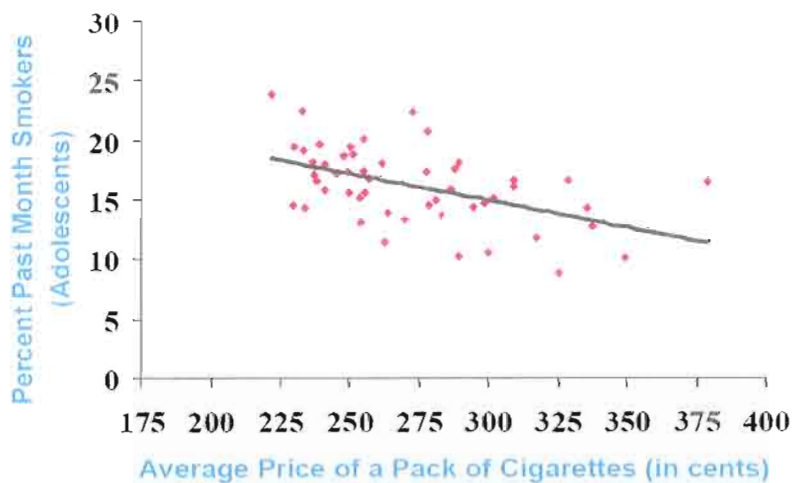
The tobacco tax is the single most important approach to the anti-smoking campaign.<sup>14,23</sup> A study of the federal tobacco tax from 1954-1988 showed that tobacco tax increases lead to statistically significant decreases in smoking-related mortality.<sup>30</sup> In a California-based study comparing the effectiveness of anti-smoking media campaigns with increased tobacco taxes, results showed that a 25 cent state tax increase reduced cigarette sales by 819 million packs, while the anti-media campaign reduced the sales of cigarettes by 232 million packs. Thus, although both methods are successful, taxation proved to have a much greater effect on smokers. The study clarified, however, that the strength of its effects depends highly on the magnitude of the taxes and the amount of media.<sup>23</sup>

Because of this and similar evidence, taxes on tobacco products have been steadily increasing. The current federal excise tax on cigarettes is 39 cents per pack, while the average state tax on cigarettes is 84 cents per pack. Seventeen states and the District of Columbia have a tax of \$1 or more. Three states—Michigan, New Jersey, and Rhode Island—have a tax of over \$2 per pack. The significant increase in the cigarette tax motivates smokers to quit and prevents children from starting.<sup>35</sup>

The tax on tobacco products has proved a successful deterrent for consumers, especially for children. Studies indicate that funds directed toward anti-smoking campaigns are successful, and states that take a vigorous approach to the anti-smoking campaign have the greatest rate of success. In a study which measured the effectiveness of tobacco control programs, results showed that anti-smoking campaigns, funded with the revenue of a tobacco tax, were the most effective tool against smoking.<sup>23</sup>

## Figure 8

Cigarette Smoking Among Youth by the Average Price of a Pack of Cigarettes in 50 States and the District of Columbia, 1999



Data: 1999 NHSDA (12-17 year olds); 1999 Tax Burden On Tobacco

Source: Giovino, et al., 2001

### 1.3 Public Support of Tobacco Tax

In 1998, the American Cancer Society conducted a survey which showed that the American public favors national tobacco legislation. In the survey, 59% of individuals preferred increasing the current tobacco tax. Voters seemed to differentiate the tax on tobacco from other taxes, and voted by a 2-to-1 margin that a candidate who signed a “no new taxes” pledge would not be violating that pledge if he voted to increase the tobacco tax. The American Cancer Society President, David S. Rosenthal, M.D., stated that the survey “clearly counters the tobacco lobbyists' threats that members of Congress who signed a no-tax pledge will lose support from their constituents if they vote for a tobacco tax



increase...This poll clearly shows that Congress has no excuse not to pass more national control legislation immediately."<sup>37</sup>

Since the 1998 survey, support for government control of tobacco has continued to rise. In July 15, 2004, the Senate passed a bill in a 78 to 15 vote that would grant the FDA the power to regulate tobacco products.<sup>36</sup> Twice the Senate has attempted to pass the bill, however the House of Representatives rejected the attempt both times. Despite its two-time rejection, the idea has gained popularity and a third attempt is in the near future. If passed, the bill would significantly increase government control of tobacco; the FDA could restrict tobacco marketing aimed at children, such as limiting advertising in magazines with a large percentage of readers under 18; require the reduction or removal of harmful ingredients, including nicotine, from tobacco products; and require tobacco companies to take measures, when scientifically possible, to make cigarettes less harmful.<sup>36</sup>

The American Cancer Society, American Heart Association, American Lung Association, and Campaign for Tobacco-Free Kids strongly support FDA tobacco regulation, as well as most of the American public.<sup>35</sup> A poll conducted in June, 2004 revealed that 69 percent of voters supported FDA tobacco regulation.<sup>35</sup> In Oregon, voters showed strong support for the bill, with 63 percent for and 26 percent against FDA tobacco regulation.<sup>36</sup>

## **Part V: Conclusion**

There is no one particular food that can shoulder the blame of the obesity epidemic. Americans have created an environment conducive to obesity, and thus most Americans are fat. A fat tax would create the revenue necessary to treat the current problem and to fund campaigns that encourage nutrition. A fat tax would also aid in restructuring the current obesogenic society; food manufacturers would feel the strain of the tax more than consumers, and thus would have to create healthier alternatives to their nutrition poor items. Also, a fat tax would create a health conscious environment and create the necessary stigma with fatty and fast foods, similar to the current stigma on cigarettes.

Most Americans have deemed a fat tax unjust, and claimed it denies them of their personal freedom--yet those same individuals pay heavy taxes to Medicare and Medicaid programs to treat obesity and its many related illnesses. Instead of depriving people of their personal choice, a fat tax would hold them responsible for their food choices: those who ate more saturated fats and snack foods would pay more than those who refrained from foods with little nutrition. Thus a fat tax is a fair and manageable solution to the obesity problem.

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