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Buyer Beware: An Exploratory Assessment of the Static and Dynamic Effects of the New Chilean Food Labeling Model

OMAR VASQUEZ DUQUE*

Abstract

Chile recently introduced an innovative food warning label system that intends to reduce current overweight and obesity levels among the Chilean population. This initiative has been generally commended worldwide. Chile's new food labeling system mandates food producers to include a warning label that resembles a stop sign when the product exceeds a certain level of calories, fat, sodium, and sugar per 100 mg. The idea behind this regulation is that by making health risks more salient to eaters with simplified disclosures, people will change their eating behavior.

As a consequence of this new law, many product markets show a clear change in production recipes so that products can be offered with no (or fewer) warning labels. This is the case of Coca-Cola, and many desserts, including yogurts, flans, and even ice creams. Surveys report that many consumers—especially those from high-income backgrounds and the elderly—consider the warning labels when they purchase food and drinks. Yet the only econometric study conducted with observational data that analyzed the impact of the food warning labels reported ambiguous results (i.e., some products despite the labels increased their demand, while others showed lower sales).

People who commend the Chilean food labeling model tend to assume that disclosure is cheap and easy. This work adopts a different view. The assessment of shifts in consumer demand has neglected the substitution of those components subject to the warning labels and the impact of this replacement on the nutritional value of food, as well as the impact of people's misperceptions of the labels on their diet and health. On a positive level, the

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preceding effect casts doubt on what skeptical authors predict about disclosure policies, who claim that people are inattentive and irresponsible to warning labels. However, on a normative level, the actual effects of this law are unclear or ambiguous. And given the prohibition to sell products with labels in preschools and schools, children are particularly vulnerable to the overlooked consequences of this regulation.

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I. Introduction

Food is a main cause of pleasure. According to neurological studies, “[p]leasures of food, sex, addictive drugs, friends and loved ones, music, art, can produce strikingly similar patterns of brain activity.”¹ Interestingly, jurisdictions are recurring to simplified warning labels that resemble either stop signs or traffic lights with the aim of nudging people towards healthier eating habits—i.e., discouraging people from eating some of the most appealing foods that have negative effects on their long-term welfare when consumed excessively. The main driver of this regulatory trend is the striking rise in obesity and overweight rates among population of all ages in both developed and developing countries. But why should the government ruin people’s pleasure with food warning labels? According to Cass Sunstein, calorie labels ruined popcorn.² And the most cited law professor in the U.S. is not alone. In his podcast “Revisionist History,” Malcolm Gladwell nostalgically remembers the taste of the former MacDonald’s fries and criticizes the social movement that led MacDonald’s to depriving him of “those” fries, which made him “as happy as a puppy encountering snow.”³ Like Freddy Mercury, many people would sing “don’t stop me now.” They would do so in unison, and the song would be dedicated to the food labeling regulator.

It is true that labels can impose a hedonic cost on the target of disclosures. But there are important considerations that justify government regulation. Informational failures, externalities, as well as time-inconsistent preferences can support, from a cost-benefit perspective, the legitimacy of warning people of “unhealthy food” with special labels. The traditional food label addresses the first justification: provide people with information so that market forces drive inefficient, low-quality food out of the market. But simplified labels rely on a behavioral premise: that attention and people’s rationality is limited. Also, people tend to behave in ways that contradict their long-term goals. From this perspective, government guidance can help people make better (and more consistent) choices.

In fact, as Akerlof and Shiller put it, overweight and obesity can be considered as something “no one could possibly want.”⁴ The costs of obesity

1. Kent C. Berridge & Morten L. Kringelbach, *Pleasure Systems in the Brain*, 86 NEURON 646, 649 (2015).

2. See Cass R. Sunstein, “*They Ruined Popcorn*”: *On the Costs and Benefits of Mandatory Labels* (Harvard Pub. Law, Working Paper No.18-06, 2017), <https://papers.ssrn.com/abstract=3091789>.

3. Abby Jackson, *Why McDonald’s Fries Don’t Taste as Good as When You Were a Kid*, BUSINESS INSIDER (Nov. 2, 2017, 7:46 AM), <https://www.businessinsider.com/why-mcdonalds-fries-taste-different-then-they-used-to-2017-11>.

4. GEORGE A. AKERLOF & ROBERT J. SHILLER, PHISHING FOR PHOOLS: THE ECONOMICS OF MANIPULATION AND DECEPTION xv (2015).

and overweight are substantial, and the costs of disclosures are assumed to be negligible. For many, disclosure is cheap and easy. Thus, what could be better than simplified disclosures to help people eat better food? Yet, others believe this is not the right way to go. In fact, eminent academics believe that disclosure is futile for people who are usually irresponsible to the information presented to them. The Chilean experience falsifies that view—or, at least, shows that such a view is too simple. In fact, Chilean authorities report that more than 1,500 products have modified their composition to be offered to the Chilean market with fewer or no labels. Nonetheless, this work argues that those who commend the Chilean food labeling model base their assessment on a myopic account of the net effects of this law. This is because the dynamic effect of the new labeling model on the nutritional value of food is unclear.

This work is structured as follows: Section 1 provides the relevant background to understand the policy problems and objectives underlying food labeling. First, it notes the rise of the obesity epidemic and refers to the link between food quality and obesity. I also describe the NOVA classification of food, referring to sources that indicate that ultra-processed foods are the main drivers of non-communicable diseases. Section 1 ends with a discussion of the aims and effectiveness of food labels. Section 2 describes the Chilean food labeling model in detail and examines the evidence available about the static and dynamic effects of this regulation. Section 3 concludes.

II. Background

A. Obesity and Food Quality

Obesity is a main concern around the world. Overweight and obesity are major risk factors for a number of chronic diseases, such as diabetes and cancer.⁵ While obesity was considered a problem only in high-income

5. WORLD HEALTH ORG., *Obesity and overweight*, <http://www.who.int/mediacentre/factsheets/fs311/en/> [hereinafter WHO Obesity and Overweight]; WORLD HEALTH ORG., *Global Strategy on Diet, Physical Activity and Health*, at 2 (2004), http://apps.who.int/iris/bitstream/10665/43035/1/9241592222_eng.pdf?ua=1 [hereinafter WHO Global Strategy]; Emily J. Gallagher & Derek LeRoith, *Epidemiology and Molecular Mechanisms Tying Obesity, Diabetes, and the Metabolic Syndrome With Cancer*, 36 *DIABETES CARE* S233, S234 (2013); *Obesity: Preventing and Managing the Global Epidemic*, 894 WHO TECHNICAL REP. SERIES 1 (2000), https://www.who.int/nutrition/publications/obesity/WHO_TRS_894/en/. A study indicates overweight and obesity caused 3.4 million deaths, and 4% of years of life lost worldwide in 2010. See Marie Ng et al., *Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: a systematic analysis for the Global Burden of Disease Study 2013*, 384 *LANCET* 766, 767 (2014). Another study, accounting for differences in BMI, but focusing on the most severe type of obesity (Class III, i.e., BMI of 40 or higher), found that years of life lost ranged from 6.5 years for participants with

countries, overweight and obesity are now dramatically on the rise in low and middle-income countries, particularly in urban settings.⁶ The World Health Organization reports that “most of the world’s population live in countries where overweight and obesity kills more people than underweight.”⁷

Worldwide obesity has nearly tripled since 1975.⁸ In the US, the National Center for Health Statistics reports that in the period 2013-2014, 37.9% of adults were obese; and 70.6% were overweight.⁹ According to country estimates for 2008, over 50% of both men and women in Europe were overweight, and roughly 23% of women and 20% of men were obese.¹⁰ Overweight and obesity are the result of multifactorial elements: genetic, environmental, and behavioral. Yet, according to the World Health Organization, most risk factors concerning morbidity and mortality are closely related to diet and physical activity.¹¹ An important dietary factor leading to overweight and obesity is the increasing availability and consumption of *ultra*-processed products.¹² Many types of food processing are essential, beneficial, or harmless.¹³ Since the discovery of fire, humans have processed food. During pre-industrialization times, food-processing was vital for the maintenance of food.¹⁴ As Monteiro et al. put it, “[t]he processing of food has

a BMI of 40-44.9 to 13.7 years for a BMI of 55-59.9. It also found that the number of years of life lost for Class III obesity was equal or higher than that of current cigarette smokers among normal-weight participants. See Andrew M. Prentice, *The emerging epidemic of obesity in developing countries*, 35 INT’L J. EPIDEMIOLOGY 93 (2006). The most prevalent causes of life-loss were heart failure, cancer, and diabetes. See WHO Global Strategy.

6. Prentice, *supra* note 5, at 95-96.

7. WHO Obesity and Overweight, *supra* note 5.

8. *Id.*

9. Cheryl D. Fryar, Margaret D. Carroll & Cynthia L. Ogden, *Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults Aged 20 and Over: United States, 1960-1962 Through 2013-2014*, NAT’L CTR. FOR HEALTH STATISTICS (2016), https://www.cdc.gov/nchs/data/hestat/obesity_adult_13_14/obesity_adult_13_14.pdf.

10. *Data and statistics*, WORLD HEALTH ORG., <http://www.euro.who.int/en/health-topics/noncommunicable-diseases/obesity/data-and-statistics> (last visited Nov. 10, 2017).

11. Namely, this includes: high blood pressure, high concentrations of cholesterol in the blood, inadequate intake of fruit and vegetables, overweight or obesity, physical inactivity, and tobacco use. See WHO Global Strategy, *supra* note 5, at 2.

12. Carlos Augusto Monteiro et al., *Increasing consumption of ultra-processed foods and likely impact on human health: evidence from Brazil*, 14 PUB. HEALTH NUTRITION 5, 12 (2010); Jean-Claude Moubarac et al., *Consumption of ultra-processed foods and likely impact on human health. Evidence from Canada*, 16 PUB. HEALTH NUTRITION 2240, 2241 (2013).

13. Carlos Augusto Monteiro et al., *Ultra-processed products are becoming dominant in the global food system*, 14 OBESITY REV. 21, 22 (2013).

14. Richard C. Hoffmann, *Frontier Foods for Late Medieval Consumers: Culture, Economy, Ecology*, 7 ENV’T & HIST. 131, 145 (2001) (referring to Medieval European demand for fish) (“[Q]uantities of 16 to 32 cm fish could be caught within sight of land but saving them to eat even a day or two later required their oily flesh to be kept from the air, smoked, or

enabled the evolution, adaptation and increase of humankind and of settled populations.”¹⁵

However, food processing has changed with the development of industrialization¹⁶ and some types of food processing being detrimental for human health. In this respect, there is a conventional taxonomy of food supplies and dietary patterns that distinguishes between kinds of processing: the NOVA food classification system.¹⁷ It facilitates the understanding of the significance of food processing for human health, classifying food in four groups according to the nature, purpose, and extent of its processing.¹⁸

- i. *Unprocessed foods* are those that come from plants or animals and have not experienced any industrial processing. These foods are also referred to as “fresh” or “whole.” *Minimally processed foods* differ from *unprocessed foods* only in that they may involve the removal of parts of the food, without adding supplementary elements. Minimal processing techniques extend the food’s duration and improve its flavor.
- ii. *Processed culinary ingredients* are extracted and refined from food components (such as fats, oils, and sugars) or obtained from nature (such as salt). These substances are not usually consumed by themselves. Their main purpose is to aid in the preparation and cooking of foods.
- iii. *Processed foods* are manufactured by adding fats, oils, sugars, salt, and other culinary ingredients to minimally processed and unprocessed foods to make them more durable and improve their taste.
- iv. *Ultra-processed food and drink products* are inventions of modern industrial food science. “Most of these products contain little or no

treated with salt. Indeed, while the Germanic word *harinc* is said to derive from their army-like masses, the Latin term *bailee* simply means salted fish.”).

15. Monteiro et al., *supra* note 13, at 21.

16. *Id.*

17. This method was first proposed by a team of investigators led by Prof. Carlos Monteiro in 2009. It has been improved constantly building upon prior experiences. Today, it is recognized as a respectable classification and several organizations use it. *See id.* at 25–26; Carlos Augusto Monteiro et al., *The UN Decade of Nutrition, the NOVA Food Classification and the Trouble with Ultra-Processing*, 21 PUB. HEALTH NUTRITION 5, 10 (2018); Carlos Augusto Monteiro et al., *NOVA. The star shines bright*, 7 WORLD NUTRITION 28, 30–34 (2016); Monteiro et al., *supra* note 12, at 6; Moubarac et al., *supra* note 12, at 2241.

18. I based this description from Monteiro et al., *The UN Decade of Nutrition, the NOVA Food Classification and the Trouble with Ultra-Processing*, *supra* note 17, at 11; Moubarac et al., *supra* note 12, at 2246.

whole food.”¹⁹ They are industrial preparations manufactured from substances derived from foods or synthesized from other organic sources. In Jean-Claude Moubarac’s words, “[t]he purpose of ultra-processing is to create products that are convenient (durable, ready-to-eat, -drink or -heat), attractive (hyperpalatable), and profitable (cheap ingredients). Their effect all over the world is to displace all other food groups. They are usually branded assertively, packaged attractively, and marketed intensively.”²⁰ These products thrive in our diet and occupy most of the supermarkets’ aisles.²¹

In the U.S., the economic effect of obesity has been estimated at a range between 2% and 6% of the national health expenditure.²² A systematic review of several U.S. studies found that among the four highest quality analyses, “the 2008 per-person direct medical cost of overweight was \$266 and of obesity was \$1,723. The aggregate national cost of overweight and obesity combined was \$113.9 billion.”²³ More recent meta-analyses provide similar estimates.²⁴ Europe spends between 1.9% and 4.7% of the total annual health care costs and 2.8% of the annual hospital costs in dealing with overweight or obese patients.²⁵ According to Michael Pollan, “perhaps the food movement’s strongest claim on public attention today is the fact that the American diet of highly processed food laced with added fats and sugars is responsible

19. PAN AMERICAN HEALTH ORG., *Ultra-processed Food and Drink Products in Latin America: Trends, Impact on Obesity, Policy Implications*, at 5 (2015), http://iris.paho.org/xmlui/bitstream/handle/123456789/7699/9789275118641_eng.pdf.

20. JEAN-CLAUDE MOUBARAC, *ULTRA-PROCESSED FOODS IN CANADA: CONSUMPTION, IMPACT ON DIET QUALITY AND POLICY IMPLICATIONS* 11 (2017).

21. To name a few examples, ultra-processed foods include: chips and many other types of fatty, salty, or sweet packaged snack products; ice-cream, chocolate, and candies; cookies, pastries, and cakes; sweetened breakfast cereals; energy bars; carbonated drinks and energy drinks; sugar-sweetened milk drinks, including fruit yogurt drinks; fruit and fruit nectar drinks. Moubarac et al., *supra* note 12, at 2242; Monteiro et al., *supra* note 12, at 8.

22. Anne M. Wolf, *What is the Economic Case for Treating Obesity?*, 6 *OBSIDITY RES.* 2S, 6S (1998). Excess medical costs attributable to obesity have been found to equal or exceed those of smoking. See Roland Sturm, *The Effects Of Obesity, Smoking, And Drinking On Medical Problems And Costs*, 21 *HEALTH AFF.* 245, 248 (2002).

23. Adam Gilden Tsai, David F. Williamson & Henry A. Glick, *Direct Medical Cost of Overweight and Obesity in the USA: A Quantitative Systematic Review*, 12 *OBSIDITY REV.* 50, 50 (2011).

24. David D. Kim & Anirban Basu, *Estimating the Medical Care Costs of Obesity in the United States: Systematic Review, Meta-Analysis, and Empirical Analysis*, 19 *VALUE HEALTH* 602, 610 (2016) (“From the meta-analysis, the pooled estimate of annual medical costs attributable to obesity was \$1901 (\$1239–\$2582) in 2014 USD, accounting for \$149.4 billion at the national level.”).

25. Sarah Cuschieri & Julian Mamo, *Getting to grips with the obesity epidemic in Europe*, 4 *SAGE OPEN MED.* 1, 2 (2016).

for the epidemic of chronic diseases that threatens to bankrupt the health care system.²⁶

B. The Aims of Nutrition Labels

Nutrition labels have had different aims throughout history. For instance, nutrition labels in the U.S. after World War II focused primarily on preventing vitamin-deficiency diseases. But nowadays authorities aim primarily at providing information on nutrition information to minimize the risks of consumers presenting chronic diseases—a risk that became noticeable in the 1980s.²⁷ In fact, nutrition labels provide consumers with a standardized nutritional account of what they eat and should help them make more informed decisions.

Nutrition labels are a type of disclosure, and disclosures are usually seen as a tool for correcting informational failures.²⁸ When we eat, we can see how products look and certainly appreciate their taste, but we rarely know what was used to produce them. Moreover, similar textures and tastes can be produced with different ingredients, some of which are cheaper to produce and less healthy than others. If similar tastes can be produced with diverse ingredients, and quality—in terms of health risks, for example—is positively correlated with cost, market forces will tend to produce low-cost/low-quality products, as long as consumers may not appreciate quality easily.²⁹ If producers are mandated to inform consumers of the ingredients they use, and consumers are well-informed—and educated—market forces will drive out those producers who supply food of inefficient low quality. In other words, consumers will price the health risks imposed by low-quality

26. Michael Pollan, *The Food Movement, Rising*, THE NEW YORK REVIEW OF BOOKS (June 10, 2010), <https://www.nybooks.com/articles/2010/06/10/food-movement-rising/>.

27. David A. Kessler et al., *Developing the "Nutrition Facts" Food Label*, 4 HARV. HEALTH POL'Y REV. 13, 14 (2003) ("Nutrition policy in the United States after World War II focused primarily on preventing vitamin-deficiency diseases. Over time, largely as a result of nutrient fortification programs, those ailments declined dramatically in this country, and researchers increasingly turned their attention to the relationship between nutrition and chronic disease. New studies documented the role of diet in heart disease, cancer, obesity, and other chronic ailments, and in the 1980s, the Surgeon General and the Institute of Medicine published pivotal reports on the subject.").

28. Stephen Breyer, *Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform*, 92 HARV. L. REV. 547, 556 (1979).

29. This is also referred to as a "lemons equilibrium." See George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 490–92 (1970); Howard Beales et al., *The efficient regulation of consumer information*, 24 J.L. ECON. 491, 510 (1981).

food and will only buy this type of food when they derive net benefits from low-quality food.³⁰

Nevertheless, as Richard Craswell notes, disclosures may produce *static* and/or *dynamic* effects.³¹ The former intends to allow consumers to find the best alternative among a set of available products.³² The latter expects to change the current alternatives by providing sellers with incentives to modify the supply of the market.³³ The Annual Percentage Rate (APR) is a good example of a static disclosure. By simplifying the annual cost of credit, consumers are able to choose the cheapest alternative.

Another classification that distinguishes how the disclosure is intended to work, is Kahneman's dual system taxonomy.³⁴ A disclosure may merely aim to educate the consumer rather than change behavior through incentives. Such a disclosure, targets people's deliberative system (or System 2). But disclosures can also target people's intuitive system (or System 1), which is fast and frugal, such as the case of graphic warnings some jurisdictions use for deterring tobacco consumption.³⁵ Simplified nutrition labels usually have some sort of appeal to people's intuitive system, in addition to summarizing information that consumers can corroborate in the larger and more detailed nutrition label. For instance, the British and Ecuadorian models resemble a traffic light. At first glance, a traffic light only informs potential buyers about the levels of ingredients subject to control. But people may well perceive that they should not "run a red light."³⁶ The informative message is that "red" is above the level predefined as healthy, but people are likely to perceive the message as a recommendation to "stop." As I detail in the following section, this is the message conveyed by the Chilean labeling model. The warning labels precisely resemble a stop sign, but, unlike the British archetypal, the

30. Beales et al., *supra* note 29, at 492 ("Information about price, quality, and attributes allows buyers to make the best use of their budget by finding the product whose mix of price and quality they most prefer. In turn, buyers' ability to locate preferred products gives sellers an incentive to compete to improve their offerings by allowing buyers to find and reward (with patronage) the seller whose offer they prefer. Without such information, the incentive to compete on price and quality will be weakened, and consumer welfare will be reduced.").

31. Richard Craswell, *Static Versus Dynamic Disclosures, and How Not to Judge Their Success or Failure*, 88 WASH. L. REV. 333, 337–45 (2013).

32. *Id.* at 334 ("Static disclosures take a consumer's existing range of choices as more or less given, and aim merely to improve a consumer's choice from among the existing choice set.").

33. *Id.* ("[D]ynamic disclosures seek to improve the existing choice set by creating incentives for sellers to improve the quality of their offerings.").

34. DANIEL KAHNEMAN, *THINKING, FAST AND SLOW* (2011).

35. Cass R. Sunstein, *People Prefer System 2 Nudges (Kind Of)*, 66 DUKE L.J. 121, 126, 128 (2016).

36. I owe this point to my mentor Rob MacCoun, who raised this interpretation when providing feedback on a previous version of this article.

Chilean label is a binary model—a label is either present or not since there are no variations that may distinguish the unhealthy from the very unhealthy.

The distinction between System 1 and System 2 disclosures is relevant for at least two reasons. The first one relates to the ethical criticisms that simplified labels can elicit. System 2 disclosures are unlikely to trigger ethical reproaches, but some consider System 1 disclosures as paternalistic.³⁷ I will only refer to this issue tangentially in this article.³⁸ The second reason relates to the mechanisms of influence on people's behavior. System 2 disclosures target informational failures. If people do not know that what they are eating is unhealthy, then a nutrition label can help them find healthier food. Yet sometimes people can have an information overload because they may be required to process too many product-attributes, which strains our limited ability to process information.³⁹ Accordingly, System 2 disclosures compensates for informational failures by facilitating comparison shopping and increasing competition via food labels that indicate the nutritional value of relevant product-attributes. If a significant number of consumers engage in comparison shopping and reward the producers who supply the most nutritional food in the market, this is likely to produce significant shifts in food production.

Other times, people face choices that are complex because consumers lack the proper knowledge to make an informed decision. For instance, many people find it difficult to comprehend compound-interest rates, and System 2 disclosures, such as the APR and the Annual Percentage Yield (APY), facilitate people's understanding of the terms they agree to when they buy a financial product.⁴⁰ This is also the intent of simplified food labels, to facilitate people's understanding of what they are eating. But it is important to bear in mind that in addition to the scientific knowledge that is hard to grasp for a large part of the population, the noisy signals sent by diverse scientific results about the impact of some elements used in food (e.g., dietary fat) on people's health make people's choices harder.⁴¹ In this sense, authority recommendations based on the best-available science can be particularly

37. Sunstein, *supra* note 35, at 126. For a discussion on the ethics of nudging, see Jeffrey J. Rachlinski, *How I Learned to Stop Worrying and Love Nudges*, 95 TEX. L. REV. 1061 (2017) (book review).

38. For a strong defense of paternalism, see SARAH CONLY, *AGAINST AUTONOMY: JUSTIFYING COERCIVE PATERNALISM* (2013).

39. George A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*, 63 PSYCHOL. REV. 81, 92 (1956).

40. Ryan Bubb, *TMI? Why the Optimal Architecture of Disclosure Remains TBD*, 113 MICH. L. REV. 1021, 1027 (2015); Oren Bar-Gill, *Defending (Smart) Disclosure: A Comment on More Than You Wanted to Know*, 11 JERUSALEM REV. LEGAL STUD. 75, 76 (2015).

41. See, e.g., Gary Taubes, *The Soft Science of Dietary Fat*, 291 SCIENCE 2536, 2538–41 (2001).

helpful, especially when non-scientific news circulate freely and rapidly on social media. As people can more easily compare the costs of credit with the help of simplified statistics, such as the APR, eaters may also be nudged towards healthier eating with the help of simplified labels.

System 1 disclosures tackle people's automatic system. As mentioned above, a clear example of a System 1 disclosure is a graphic warning informing the risks of smoking. Smokers usually underestimate the health risks of smoking because of optimism⁴² or present bias.⁴³ And these biases that reside in our System 1 can be reduced by System 1 disclosures.⁴⁴ For instance, Christine Jolls has shown how smoking warning labels reduce people's misconceptions about the risks of smoking.⁴⁵ And overweight and obesity are likely to be explained by the same biases linked to smoking (i.e., optimism and present bias). In fact, despite the labels we find in our food, a large part of people who are overweight or obese prefer ultra-processed products. For low-income consumers, given current inequality levels and their implications for education, it may be particularly challenging to understand the information displayed by traditional nutrition labels. Furthermore, even if they understood the information and could appraise the relevant trade-offs, they may be forced to consume low-quality foods given possible budget constraints and inaccessibility to nutritional food.

But many well-educated people who can afford healthier food consume junk food, aware of its impact on their health. People's recurrent intention to eat chocolate today and fruit a week later is a typical example of present bias in behavioral economics. Our tendency to place excessive weight on immediate gratification and insufficient attention on our future-selves is well-documented.⁴⁶ Graphic warning can ameliorate this problem by helping people think about their future-selves, reducing present bias.⁴⁷

42. Neil D. Weinstein, *Unrealistic Optimism About Future Life Events*, 39 J. PERSONALITY & SOC. PSYCHOL. 806, 807 (1980).

43. See David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q.J. ECON. 443, 451–54 (1997).

44. See, e.g., Bubb, *supra* note 40, at 1030 (arguing that System 1 disclosures are more effective than System 2 disclosures).

45. Christine Jolls, *Product Warnings, Debiasing, and Free Speech: The Case of Tobacco Regulation*, 169 J. INSTITUTIONAL & THEORETICAL ECON. 53, 67 (2013).

46. See, e.g., Ted O'Donoghue & Matthew Rabin, *Doing It Now or Later*, 89 AMER. ECON. REV. 103, 104 (1999); Ted O'Donoghue & Matthew Rabin, *Present Bias: Lessons Learned and To Be Learned*, 105 AMER. ECON. REV. 273, 274 (2015).

47. Cass R. Sunstein, *On Mandatory Labeling, with Special Reference to Genetically Modified Foods*, 165 U. PA. L. REV. 1043, 1052 (2017).

C. The Effectiveness of Nutrition Labels

What does the empirical evidence show about the effectiveness of nutrition labels? The results are mixed. In the U.S., some studies have found that calorie labeling has decreased Body Mass Index (BMI) levels.⁴⁸ Other studies provide a more critical account but still show a modest drop in BMI levels. In an interesting study, Alan Mathios documented how producers of low-fat salad dressing voluntarily disclosed that their products were low-fat. However, mandatory disclosure led consumers to prefer dressings with lower-fat content, despite the fact that there was already a voluntary labeling system in place.⁴⁹ Furthermore, consumers appear to be willing to pay a premium for products containing nutrition labels, when comparing them with similar alternatives that contain no nutritional information.⁵⁰ Generally, consumers report being more aware of nutrition facts thanks to nutrition labels and to make decisions considering the information provided by them.⁵¹

However, there is also evidence casting doubt on the efficacy of nutrition labels. For instance, a study found that people only rarely consulted nutrition information, and those who did found it challenging to understand the information conveyed.⁵² In a similar vein, a systematic review of 103 studies by Cowburn and Stockley noted that while some consumers do consult nutrition labels, they tend to find labels confusing—particularly, the technical and numerical information.⁵³ More fundamentally, this review identified

48. See Partha Deb & Carmen Vargas, *Who Benefits from Calorie Labeling? An Analysis of its Effects on Body Mass* 1–29 (Nat'l Bureau of Econ. Research, Working Paper No. 21992, 2016), <http://www.nber.org/papers/w21992>.

49. Alan D. Mathios, *The Impact of Mandatory Disclosure Laws on Product Choices: An Analysis of the Salad Dressing Market*, 43 J.L. & ECON. 651, 672 (2000) (“Mandatory nutrition labeling appears to have had an impact on consumer food choices in the salad dressing market. This occurs despite the fact that under voluntary labeling, firms had a credible, low-cost mechanism for disclosing this information. It is unlikely that the decline in sales identified in this study is the result of some other factor correlated with mandatory labeling.”).

50. Maria L. Loureiro, Azucena Gracia & Rodolfo M. Nayga, *Do Consumers Value Nutritional Labels?*, 33 EUROPEAN REV. AGRIC. ECON. 249, 249 (2006) (“On average, the mean willingness to pay (WTP) for a box of cookies with a nutritional label is estimated to be about 11 per cent above the price of the box of cookies without a nutritional label. Consistent with prior expectations, our results also indicate a difference between the WTP of individuals suffering from diet-related health problems (estimated mean 13 per cent) and those who do not suffer any diet-related health problems (estimated mean 9 per cent).”).

51. Omri Ben-Shahar & Carl E. Schneider, *The Failure of Mandated Discourse*, 159 U. PA. L. REV. 647, 675 (2011).

52. Gary Jones & Miles Richardson, *An Objective Examination of Consumer Perception of Nutrition Information Based on Healthiness Ratings and Eye Movements*, 10 PUB. HEALTH NUTRITION 238, 238 (2007).

53. Gill Cowburn & Lynn Stockley, *Consumer Understanding and Use of Nutrition Labeling: A Systematic Review*, 8 PUB. HEALTH NUTRITION 21, 23 (2005).

several studies that challenged the validity of consumers' self-reported levels of nutrition information analysis. Those studies concluded that consumers may look at nutrition labels, but they seldom process their meaning.

A lucid critic of nutrition labels—and of disclosure more generally⁵⁴—is Professor Omri Ben-Shahar. In a *Forbes* op-ed, Ben-Shahar described Michelle Obama's efforts for updating the American nutrition label as futile.⁵⁵ This was because, according to the author, the nutrition label does not have any impact on people's behavior. In Ben-Shahar's words, "The fight over the nutrition label is a story of great irony, because—notwithstanding the adoration it receives—in its twenty-five years of existence it has not affected how people eat."⁵⁶ In addition to referring to some of the articles described above, Ben-Shahar bases his critical view on a field experiment he conducted with Adam Chilton. They tested whether outside the lab people paid greater attention to privacy disclosures that resembled nutrition labels, asking participants to perform personally sensitive web-related tasks and warning them that much of their sensitive information was being collected and broadly shared. In the control group, participants saw the data collection warning in the usual legal format that contained thousands of words in small print. In the treatment group, participants saw a warning in the nutrition box style instead. Notably, there were no differences among the groups. Both shared the same amount of personal information.⁵⁷ Professor Ben-Shahar claims that this study is generalizable to most disclosure settings.⁵⁸

In the next section, I show how Professor Ben-Shahar's skepticism—as well as the external validity of his experiment—does not match with the effects the Chilean food labeling law triggered in different Chilean markets. Nonetheless, the scarce evidence currently available does not warrant particular enthusiasm about the net effects of this law. It is true, as Richard Craswell soundly states, that we should not expect 100% of consumers to change their behavior to conclude that disclosures are effective. Even low rates of

54. See, e.g., OMRI BEN-SHAHAR & CARL E. SCHNEIDER, *MORE THAN YOU WANTED TO KNOW: THE FAILURE OF MANDATED DISCLOSURE* (2014).

55. Omri Ben-Shahar, *FDA Versus Michelle Obama: The Curious Battle Over the Nutrition Label*, *FORBES* (June 16, 2017, 9:14 AM), <https://www.forbes.com/sites/omribensshahar/2017/06/16/fda-versus-michelle-obama-the-curious-battle-over-the-nutrition-label/>.

56. *Id.*

57. See Omri Ben-Shahar & Adam Chilton, *Simplification of Privacy Disclosures: An Experimental Test*, 45 *J. LEGAL STUD.* S41, S56–S57 (2016). But see Ian Ayres & Alan Schwartz, *The No-Reading Problem in Consumer Contract Law*, 66 *STAN. L. REV.* 545 (2014).

58. *Id.* at S43. Another interesting line of criticisms to disclosure regulation comes from its administrability. Professor Daniel Ho has documented how the Restaurant Hygiene Grading System has been less effective than intended because of the failure of the inspection system. See Daniel E. Ho, *Fudging the Nudge: Information Disclosure and Restaurant Grading*, 122 *YALE L.J.* 574 (2012).

behavioral change may cause net benefits. This is, as usual, an empirical question.⁵⁹ But it is one that requires us to clearly define a normative criterion to appraise the success or failure of disclosures.

Generally, *static* disclosures will be effective as long as the net benefit of the information provided is greater than the expenses of the disclosure. If consumers overestimate the quality of the product (*i*'), a disclosure would be cost-effective as long as the change that the disclosure produces on people's overestimation is lower than 0. Conversely, if consumers underestimate the quality of a product, a disclosure would be cost-effective as long as the change in the underestimation produced by the disclosure is greater than 0. From a dynamic perspective, a disclosure would be effective if it improved product quality.⁶⁰

III. The Chilean Experience

A. General Background

Chile has one of the highest obesity rates in Latin America. According to the Pan-American Health Organization, 23.2% of the Chilean population above 18 years old is obese, and more than 60% is overweight.⁶¹ Notably, more than 30% of children (under 8 years old) are obese. As Camila Corvalán explains, “[s]ince the 1980s, the typical Chilean diet changed from predominantly natural foods to being dominated by ultra-processed foods, which are higher in calories and sugar.”⁶² In an attempt to reduce overweight and obesity among the Chilean population, especially among children, Chile enacted the Law of Food Labeling and Advertising (Law 20.606) in June of 2016, which took more than 10 years to be approved in Chilean Congress.⁶³

According to this new law, any foods or beverages exceeding a certain level of sugar, sodium, saturated fat, or calories must carry a warning label identifying the excess. These warning labels are in addition to the general nutritional information that follows the general Codex Alimentarius

59. Craswell, *supra* note 31, at 341.

60. *Id.* at 361.

61. Pan-American Health Org. Chile & World Health Org. [WHO], *Obesidad*, http://www.paho.org/chi/index.php?option=com_content&view=article&id=179:obesidad&Itemid=1005.

62. Camila Corvalán, *What the World Will Learn from Chile's Bold Policy to Curb Obesity*, BLOOMBERG PHILANTHROPIES (May 15, 2017), <https://www.bloomberg.org/blog/world-will-learn-chiles-bold-policy-curb-obesity/>.

63. Andrew Jacobs, *In Sweeping War on Obesity, Chile Slays Tony the Tiger*, N.Y. TIMES (Feb. 7, 2018), <https://www.nytimes.com/2018/02/07/health/obesity-chile-sugar-regulations.html>.

guidelines.⁶⁴ Furthermore, products that contain warning labels (i) are prohibited from using any licensed or brand character, toy or giveaway, or child-targeted imagery (including characters like Tony the Tiger, and Kinder Surprise); (ii) cannot be advertised on television or on websites aimed at children under 14 years old; and (iii) cannot be sold at preschool and school venues.⁶⁵ Figure 1 provides a visual example of the food warning labels found on Chilean products.

Figure 1: Chilean Food Warning Labels



B. The Impact of the New Food-labeling Law

What we see in Chile after the new food labeling law was enacted defies the prediction raised by the skeptics on the potential impact of warning labels to people's behavior. In fact, the warning labels had an important impact on different markets. Although, as is often the case with general regulations, the results are market specific. Moreover, these results are static as well as dynamic. For example, Nestlé reports lower sales of chocolates (between 10 and 15%, depending on the product) in the semesters following the enactment of the law.⁶⁶ Certainly, one may question whether this will be a long-lasting effect. To date, there is only one public study assessing the static effects of this regulation. Scapini and Vergara analyzed the sale of ten products

64. World Health Org. [WHO] & Food and Agric. Org. [FAO], *Codex Alimentarius (Food Labelling)* (5th ed. 2007), <http://www.fao.org/docrep/010/a1390e/a1390e00.htm>.

65. For a slightly more detailed account, see Corvalán, *supra* note 63. I based my description and the examples on her work.

66. Jessica Marticorena, *Nestlé y ley de etiquetado: "No ha modificado de manera radical los hábitos de consumo"* [*Nestlé and food labeling law: "It has not radically changed consumer habits"*], LA TERCERA (Apr. 30, 2017, 11:17 AM), <http://www.latercera.com/noticia/nestle-ley-etiquetado-no-ha-modificado-manera-radical-los-habitos-consumo/>.

before and after the new labeling law entered into force.⁶⁷ Their results show a general decline in sales of products containing “stop-signs” six months after the products incorporated the warning signs. However, the authors also found that among their sample, products with one and three warning labels tended to have increased sales. This is counterintuitive. According to the authors, those products may lack substitutes, or may benefit from a highly loyal demand.⁶⁸ The confidentiality of the products subject to analysis in the study make it particularly difficult to put the study into context.

A survey conducted by The University of Chile may help shed light in this regard. This university surveyed 1,067 adult people of different socio-economic backgrounds. The survey results report that 93% of consumers recognize (i.e., know the meaning of) the warning labels, 44% say they compare the number of warning signs when buying food and drinks, and almost 70% of them (31% of the total sample) tend to choose products with fewer labels. Almost 10% of them reported not buying products with warning labels at all, and 14% reported buying less than they would have bought, had the products lacked the warning labels.⁶⁹ Several media articles in which managers assess the impact of the new labeling law confirm those results.⁷⁰ The following charts summarize these data.

67. Valeria Scapini Sanchez & Cinthya Vergara Silva, *El impacto de la nueva ley de etiquetados de alimentos en la venta de productos en Chile* [The impact of the new food labeling law on the sale of food products in Chile], 3 PERFILES ECONÓMICOS 7, 20 (2017).

68. *Id.* at 27.

69. MINISTERIO DE SALUD [MINISTRY OF HEALTH OF CHILE], INFORME DE EVALUACIÓN DE LA IMPLEMENTACIÓN DE LA LEY SOBRE COMPOSICIÓN NUTRICIONAL DE LOS ALIMENTOS Y SU PUBLICIDAD [EVALUATION REPORT ON THE IMPLEMENTATION OF THE FOOD LABELING LAW AND ITS PUBLICITY] 83 (2017), <https://www.minsal.cl/wp-content/uploads/2017/05/Informe-Implementación-Ley-20606-junio-2017-PDF.pdf>.

70. See Marticorena, *supra* note 66; Angélica Baeza, *Fanta y Sprite reducen su contenido de azúcar a la mitad y ya no tendrán sello* [Fanta and Sprite reduce their sugar content by half and will no longer have nutritional labels], LA TERCERA (Sep. 27, 2017, 11:11 AM), <http://www.latercera.com/noticia/fanta-sprite-reducen-contenido-azucar-la-mitad-ya-no-tendran-sello/>.

Figure 2: Stated Comparison of Warning Signs When Buying Food and Drinks

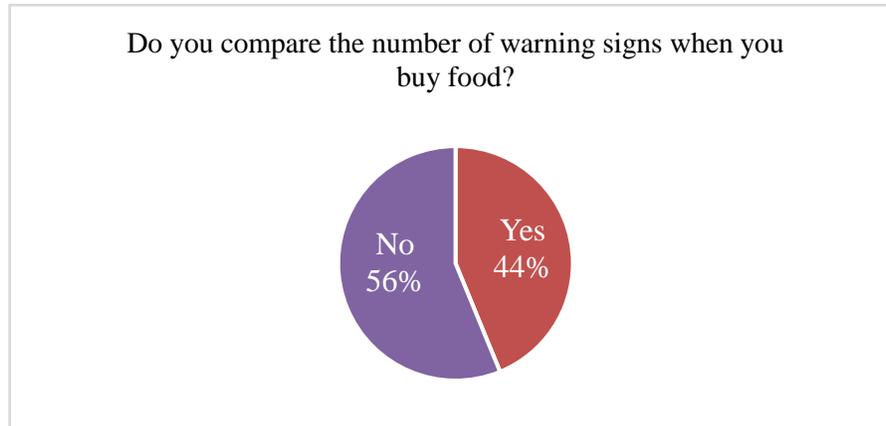
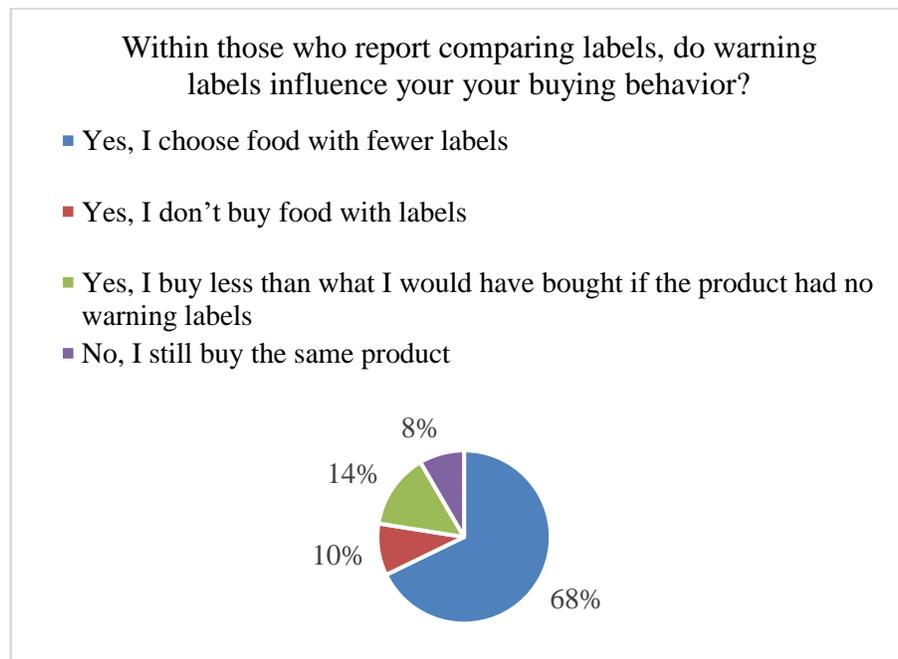


Figure 3: Stated Influence of Labels on Buyers' Behavior



With respect to the dynamic effects of this law, Chilean Authorities report that one year after the enactment of the new labeling law more than 1,500 products were modified with the purpose of being offered with no or

fewer warning labels.⁷¹ Numerous products—such as soda and deserts—replaced sugar with sweeteners. Today, the Chilean Government evaluates the impact on the health of such substitution.⁷² Furthermore, some producers not only modified their recipe, but also started advertising that their products came with no warning labels. For instance, Soprole, a company that specializes in milk and dessert products, widely advertises that “all Soprole desserts are free of labels.”⁷³ Turkey and sausage producers also advertise in the same way.⁷⁴

Notably, Coca-Cola reduced the sugar content of Fanta and Sprite by at least 50%. This case is remarkable. Today, the regular version of these drinks contains little less than half of the sugar content of a regular Pepsi (9.6g per 200ml vs. 22g per 200 ml, respectively).⁷⁵ This is despite the fact Coca-Cola and Pepsi Co. also offer “zero” versions of these carbonated drinks, which come with no sugar at all. Coca-Cola claims the reduction in sugar content did not affect the taste of Fanta and Sprite. Coca-Cola achieved this effect by replacing sugar with sucralose and acesulfame.⁷⁶ According to current science, there is growing evidence that both sucralose and acesulfame could

71. Juan Pablo Sallaberry & Sebastián Labrín, *Minsal indaga aumento en uso de edulcorantes debido a Ley de Etiquetado* [Ministry of Health investigates increase in the use of sweeteners due to the Food Labeling Law], LA TERCERA (May 22, 2017, 12:58 AM), <http://www.latercera.com/noticia/minsal-indaga-aumento-uso-edulcorantes-debido-ley-etiquetado/>.

72. *Id.*

73. Macarena Fernández, *Así se están transformando las empresas de alimentos para eliminar los sellos negros* [This is how food companies are evolving to eliminate the black food labels], EL DEFINIDO (Jan. 20, 2017, 7:00 AM), <http://www.eldefinido.cl/actualidad/pais/8013/Asi-se-estan-transformando-las-empresas-de-alimentos-para-eliminar-los-sellos-negros/>.

74. Agrosuper, a major player in the Chilean food sector, reports that they reduced sodium and fat content of 73 products one month before the new food labeling law entered into force. See Presentation, *Presentación Agrosuper noviembre 2017* [Agrosuper Presentation November 2017] (2017), <https://www.agrosuper.cl/wp-content/uploads/2016/10/Presentación-Agrosuper-3T17-Version-Final.pdf>. The firm appears to have strategically reduced sodium and fat before the enactment of the law, in order to start advertising when the warning labels benefited from high media exposure.

75. Nutritional Information of *Fanta*, FATSECRET (May 2, 2018, 1:52 AM), <https://www.fatsecret.cl/calorías-nutrición/fanta/fanta/1-vaso>; Nutritional Information of *Sprite*, FATSECRET (Dec. 10, 2018, 6:06 AM), <https://www.fatsecret.cl/calorías-nutrición/sprite/bebida/100ml>; Nutritional Information of *Pepsi*, FATSECRET (May 7, 2020, 12:54 AM), <https://www.fatsecret.cl/calorías-nutrición/pepsi/pepsi/1-vaso>; see also Baeza, *supra* note 70.

76. *Igual de ricas y... ¡sin sellos!*, COCA COLA JOURNEY CHILE, <https://www.cocacoladechile.cl/historias/bienestar-igual-de-ricas-sin-sellos> (last visited Apr. 7, 2019).

pose risks to human health.⁷⁷ But there is yet to be a scientific consensus on this issue.⁷⁸

One of the most salient public policy concerns that supported the approval of the new labeling law was child obesity. As described above, this regulation did not only mandate warning labels for products exceeding certain levels of calories, sugars, saturated fats, and sodium (per 100 mg). It also restricted the advertisement and distribution channels of those products. Restricted advertising as well as restricted distribution are certainly variables one may consider as confounding in interpreting the reported reduced sales.

Reduced sales are likely to incentivize perverse dynamic effects. It may be true that children ate too much chocolate or perhaps bought Kinder Surprise hoping to get a new toy to play with in a break. Chips and Cheetos taste great, despite their high content of calories, saturated fats, and sodium. Most educated parents would generally probably prefer their children to stay away from too much chocolate and junk food. However, according to food producers, practically any brownie containing honey must include a warning label with current standards. And the same happens with products containing oatmeal, a highly caloric ingredient—but rich in fiber, protein, important vitamins, minerals, and antioxidants—whose use almost automatically triggers a warning label.⁷⁹

To my understanding, the dynamic effect on the nutritional value of food, which is especially important for children, has been totally neglected in the assessment of Chile's new labeling law. The dynamic effect on children should have been a main concern in the design of the regulation—especially considering that children can only buy food with no labels at school. We would like children to avoid the consumption of ultra-processed food, but it is egregious to put whole (or minimally processed) foods, which are rich in key nutrients for the children's proper physical development, in the

77. Hilary Brueck, *There's even more evidence that artificial sweeteners like aspartame could be dangerous*, BUSINESS INSIDER (Oct. 2, 2018, 6:15 AM), <https://www.businessinsider.com/artificial-sweeteners-aspartame-and-sucralose-damage-gut-bacteria-e-coli-2018-10>; Christopher Gardner et al., *Nonnutritive Sweeteners: Current Use and Health Perspectives: A Scientific Statement from the American Heart Association and the American Diabetes Association*, 35 DIABETES CARE 1798, 1806 (2012) (“[T]here are insufficient data to determine conclusively whether the use of NNS [Nonnutritive Sweeteners] to displace caloric sweeteners in beverages and foods reduces added sugars or carbohydrate intakes, or benefits appetite, energy balance, body weight, or cardiometabolic risk factors.”).

78. Compare Bernadene A. Magnuson et al., *Critical review of the current literature on the safety of sucralose*, 106 FOOD & CHEMICAL TOXICOLOGY 324, 325 (2017) (finding that data support the conclusion that sucralose is safe for consumption), with Gardner et al., *supra* note 77, at 1806 (finding that data are inconclusive with regard to the effects of sucralose on health).

79. I heard this from industry actors in confidential interviews I conducted in Chile and confirmed it with fatsecret.cl.

same basket with ultra-processed foods. Yet this is what the Chilean labeling law did. In the eyes of Chilean law, an oatmeal cookie is as unhealthy as Cheetos.

Another criticism that has been raised in Chile is that the warning labels frightens consumers rather than educate them.⁸⁰ This is certainly an empirical question that merits further study, but I depart my analysis bearing in mind that warning labels are System 1 disclosures, which can also act as System 2 disclosures. Warning labels appeal to people's automatic system to a lesser degree than graphic labels, such as those found in Chilean cigarette packages. We know that smoking is addictive and contributes to cancer. This is why System 1 disclosures aimed at discouraging smoking count on widespread support.⁸¹ Additionally, such a strong disclosure model seems to be effective.⁸² If we know that ultra-processed food is a main cause of obesity and overweight—which in turn contribute to cancer, diabetes and other serious diseases—it seems paradoxical to have divergent views about the legitimacy of the warning labels.

Nonetheless, it is worth asking how educative or informative these simplified food labels can be. For instance, according to the University of Chile's survey, 47% of respondents considered products free of labels as "healthy." Notably, five percent of participants opined that products without labels "helped to lose weight." Of course, this makes sense under the assumption that people decrease their caloric intake—keeping everything else constant. However, studies indicate that people may draw false inferences from similar signals, which might ultimately increase overweight levels. For instance, "low-fat" labels may increase food intake by distorting the eaters' perceptions of the appropriate serving size as well as decreasing consumption guilt.⁸³ Almost a quarter of participants in a study catalogued products free of warning labels as made of "better quality than those that have warning labels." But are consumers really trading-off the lower calorie, sodium, fat,

80. Marticorena, *supra* note 66.

81. Graphic warnings on warnings on tobacco packaging are required under the WHO's Framework Convention on Tobacco Control, which, as of February 2009, had been ratified by 168 countries. See *World Health Organization Framework Convention on Tobacco Control*, art. 11, ¶ 1(b) (2003).

82. See, e.g., Victoria White, Bernice Webster & Melanie Wakefield, *Do graphic health warning labels have an impact on adolescents' smoking-related beliefs and behaviours?*, 103 *ADDICTION* 1562, 1568 (2008) (claiming that graphic warnings can be effective at reducing smoking among adolescents and reviewing the relevant literature).

83. Brian Wansink & Pierre Chandon, *Can "Low-Fat" Nutrition Labels Lead to Obesity?*, 43 *J. MARKETING RES.* 605, 605 (2006) ("[L]ow-fat nutrition labels increase food intake by (1) increasing perceptions of the appropriate serving size and (2) decreasing consumption guilt.").

and sugar levels against the nutritional value of what they and their children eat?

At least two crucial points are worth mentioning in this respect. First, the Chilean model is quite limited in providing information given its binary nature. Unlike the British and Ecuadorian models, which consider three categories resembling a traffic-light, the Chilean archetype is a “black-or-white” or “all-or-nothing” alternative. Even if products only slightly exceed sugar threshold, they carry the same warning label as those that contain five times the threshold of sugar content. In this respect, the traffic-light model appears to be more informative. However, there might be a trade-off between the warning label’s impact on consumer choice given its simplicity—facilitating comparison shopping—and a more informative traffic-light that might cause a lesser impact on people’s System 1. This is also an empirical question; future research may do well in evaluating whether this trade-off is real.

To the more-educated consumers, warning labels can make comparison-shopping easier. But it is also reasonable to hypothesize that labels can create some sort of stigma that high-income people would prefer to avoid—e.g., if people perceived that labels identified low-quality food, or that consumers of products with labels did not take care of themselves and of their significant others. And if enough people started avoiding the labels, or if food producers expected people to avoid the warning labels, we would see dynamic effects, even ex-ante. This is probably what Coca-Cola predicted. And it is hard to imagine companies with better information about consumers’ tastes than those industry giants.

Nevertheless, given the dynamic effects I have referred to, it should be clear that many times the warning label system does not act as a “nudge.” A nudge is a minimally invasive regulatory strategy that aims at steering people towards a certain direction, allowing them to go their own way.⁸⁴ This type of regulatory tool is conceived as a type of libertarian paternalistic intervention precisely because people have the chance of choosing—or acting, more generally—in a different way to the behavior the regulator expected to elicit.⁸⁵ But the dynamic effects we see can hardly be interpreted as minimally invasive. Many people just lost the food they liked. And, in some cases, it is possible that the food they liked was more nutritious than what market forces supplied in response to the food label. The net effects of this trend are hard to measure.⁸⁶ But, as Malcom Gladwell lost his favorite fries in the 90s as a consequence of the higher political salience and the health

84. RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE* (2008).

85. See Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron*, 70 U. CHI. L. REV. 1159, 1162 (2003).

86. SUNSTEIN, *supra* note 2.

risk those fries posed, many people lost the food they liked as a consequence of the warning labels.

IV. Conclusion

The new Chilean labeling law project took more than 10 years to be approved in Congress. Its main supporter, Guido Guirardi, a surgeon by training, once protested a presidential veto against this project outside the presidential palace claiming that “[s]ugar kills more people than terrorism and car accidents combined,” as he shook a box of Trix cereal for effect and stated: “It’s the poison of our time.”⁸⁷ Guirardi and his allies probably had noble intentions in seeking to have this law passed. As a doctor, he certainly understood that ultra-processed food is linked to several types of cancer, diabetes, as well as other non-communicable diseases. And children are particularly vulnerable to ultra-processed food, since it looks more attractive than healthier alternatives and is marketed assertively.

Food warning labels appear to be a good way to combat low-quality food. After all, more information is assumed to be better, especially if it makes decisions easier. Besides, warning labels seem to be effective at reducing smoking, and the informational and behavioral problems that lead some people to smoke are likely to work in a similar way in the case of ultra-processed food. So far, other Latin American countries such as Ecuador and Brazil are contemplating following Chile’s regulatory model.⁸⁸ Some believe these efforts would be futile because nutrition labels, either long or short, have no influence on people’s behavior. The Chilean experience defies this view—or, at least, shows that such a view is too simplistic. In fact, Chilean authorities report that more than 1,500 products have been modified to be offered with no or fewer labels.

Nonetheless, this work argues that those who commend the Chilean food labeling model base their assessment on a myopic account of the net effects of this law. I claim this is because the dynamic effect of the new labeling model on the nutritional value of food is unclear, as Richard Craswell concluded in an important paper on disclosure by cautioning that:

[P]eople who expect disclosure laws to solve almost every problem—quickly, easily, and with very little cost—are doomed to have their expectations crushed. The truth is that a successful disclosure law, like any other form of regulation, requires lots of difficult work, including a careful specification of the purposes the disclosure might serve, and careful assessment of all the various

87. Jacobs, *supra* note 63.

88. *Id.*

effects (both good and bad) that most disclosures produce. As a result, those who expect disclosures to succeed easily will usually be doomed to disappointment. They may feel that they have been “basely swindled,” and they may even be tempted to do away with disclosure laws entirely.⁸⁹

A well-designed simplified disclosure system may have boosted competition to get rid of the labels, and consumers may certainly benefit when food producers provided healthier alternatives. But we do not know with if this is happening in Chile. Further research is necessary to appraise this dynamic effect triggered by the new food labeling law. If food quality is worse now due to the use of chemically modified ingredients as substitutes for natural occurring ones, the regulator may face the difficult task of either including further warning labels, such as “high in sucralose or acesulfame,” or banning the use of unsafe ingredients in the future. The regulation of food quality is a difficult problem and general disclosures are unlikely to solve it quickly, easily, and with very little cost.

89. Craswell, *supra* note 31, at 379.