

FIGHTING CHILDHOOD OBESITY THROUGH PERFORMANCE-BASED REGULATION OF THE FOOD INDUSTRY

STEPHEN D. SUGARMAN[†]

NIRIT SANDMAN^{††}

ABSTRACT

That childhood obesity is an alarming public health problem is clear and widely appreciated. What is altogether unclear is what our society should do about it. Some people think the solution lies in using tort law to sue McDonald's, Coca-Cola, and other corporations. We reject that notion. Others believe that government should order specific changes in the behavior of food companies and school officials—and yet, there is little reason for confidence that these “command and control” strategies will make a difference.

Instead, we propose “performance-based regulation” of the food industry. This is analogous to the approach our country is now taking with respect to elementary and secondary education (most prominently in the No Child Left Behind legislation). Schools are not told how to achieve better educational results, but better outcomes are demanded of them. This strategy has also been used in the environmental context to reduce harmful power plant emissions, and it has been briefly proposed as a way of regulating cigarette companies.

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[†] Roger J. Traynor Professor of Law, University of California at Berkeley, Boalt Hall School of Law.

^{††} Ph.D. Mathematics, University of California at Berkeley, 2004; J.D., University of California at Berkeley, Boalt Hall School of Law, Class of 2007.

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In this Article, we propose that large firms selling food and drink that is high in sugar or fat will be assigned the responsibility of reducing obesity rates in a specific pool of children. A firm's share of the overall responsibility will be based on its share of the "bad" food market, and the children assigned to it will be organized by geographically proximate schools where obesity rates are currently above the plan's nationwide target rate of 8 percent (the actual childhood obesity rate today is approximately 16 percent). Firms that fail to achieve their goals will be subject to serious financial penalties.

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INTRODUCTION

In America, obesity¹ is a health problem that many classify as an epidemic.² Particularly troubling is the level of obesity among children, which has tripled over the last thirty years.³ That this problem has escalated to a point requiring action is a fairly uncontroversial notion. People, however, disagree about what form the solution should take, and the positions fill a spectrum.

Many people firmly believe the answer lies with parental accountability.⁴ Some in this camp hold to the idea that parents have an obligation to take control of their own children's health, and that society should not use government to interfere with (and perhaps even undermine) that responsibility.⁵ To the extent that parents are now understood to be failing their children, this viewpoint argues for reliance on decentralized societal forces to nudge parents to better

1. "Scientists categorize a person as 'overweight' if they have a Body Mass Index ('BMI') greater than 25 kg/m², and as 'obese' if they have a BMI greater than or equal to 30 kg/m²." Adam Benforado et al., *Broken Scales: Obesity and Justice in America*, 53 EMORY L.J. 1645, 1648 n.3 (2004). With respect to children,

The [Institute of Medicine] defines obesity . . . as those having a body mass index [sic] (BMI) equal to or greater than the 95th percentile of the age- and gender-specific BMI charts developed by the Centers for Disease Control and Prevention (CDC); at risk for obesity is defined as having a BMI between 85th and 95th percentiles. CDC chose not to include the NHANES III (1988–1994) body weight data in the revised year 2000 BMI standards for children aged 6 years of older, as these data would have shifted the BMI curves upwards, erroneously conveying appropriateness to the higher weights. The CDC uses the terms overweight and at risk for overweight for children according to the same cut-off points.

Eileen Salinsky, *Effects of Food Marketing to Kids: I'm Lovin' It?*, ISSUE BRIEF NO. 814 (Nat'l Health Policy Forum), 2006, at 3, available at http://www.nhpf.org/pdfs_ib/IB814_FoodMarketing_08-15-06.pdf.

2. In fact, by 1999 the Centers for Disease Control had already termed America's issue with obesity to be an epidemic. *Obesity Epidemic Increases Dramatically in the United States: CDC Director Calls for National Prevention Effort*, UPDATE (Ctr. Disease Control, Atlanta, Ga.), Oct. 26, 1999, available at <http://www.cdc.gov/od/oc/media/pressrel/r991026.htm> ("A growing obesity epidemic is threatening the health of millions of Americans in the United States.").

3. Benforado et al., *supra* note 1, at 1649; *Progress in Preventing Childhood Obesity: How Do We Measure Up?*, REP. BRIEF (Inst. of Med.), Sept. 2006, at 1, available at http://www.iom.edu/Object.File/Master/36/984/11722_reportbrief.pdf ("Over the past 30 years, the obesity rate has nearly tripled for children ages 2–5 years (from 5 to 14 percent) and youth ages 12–19 years (from 5 to 17 percent), and quadrupled for children ages 6–11 years (from 4 to 19 percent).").

4. See, e.g., Richard A. Epstein, *Obesity Policy Choices: What (Not) to Do About Obesity: A Moderate Aristotelian Answer*, 93 GEO. L.J. 1361, 1366 (2005) ("As one might expect, the causes and consequences of obesity are not a matter of settled and undisputed truth. In light of that uncertainty, we should be very skeptical of any effort to solve this matter by government intervention, whether in the form of regulation, taxes, or liability rules.").

5. See *id.*

perform their duty: pressures from extended family members and friends, changes in the food and exercise markets, and changed social norms about obesity that may well arise in response to increased public awareness of the problem.⁶ Others in the inaction camp simply conclude that no proposed official interventions will make things any better, that they all are likely to cost a lot, and that, because of unanticipated consequences, some could potentially make matters worse.⁷

Although others think that the government should indeed play a role, they think that it has played the wrong role so far. They do not like the way agricultural food subsidies work (promoting the production of high fructose corn syrup, for example);⁸ they do not like the way children are fed through the national school lunch program;⁹ they do not like the political clout that agribusiness has with regulatory agencies like the United States Department of Agriculture (USDA) and the Food and Drug Administration (FDA);¹⁰ and more. For those in this camp, perhaps the most important first step would be for government to quit doing the bad things it now does.

6. See Jeffrey P. Koplan, *Preface* to INST. OF MED., *PROGRESS IN PREVENTING CHILDHOOD OBESITY: HOW DO WE MEASURE UP?* xi, xi (2006) (“Preventing childhood obesity will involve changes in social norms . . .”).

7. See generally Paul Campos, *The Legalization of Fat: Law, Science and the Construction of a Moral Panic* (Univ. of Colo. Legal Studies Research Paper Series, Working Paper No. 06-16, 2006), available at <http://ssrn.com/abstract=902693> (arguing that there is not sufficient scientific evidence that weight loss strategies significantly improve health).

8. See generally Josh Miner, *Market Incentives Could Bring U.S. Agriculture and Nutrition Policies into Accord*, 60 CAL. AGRIC. 8 (2006), available at <http://calag.ucop.edu/0601JFM/pdfs/AgPolicy.pdf> (proposing that the USDA promote healthful eating by cutting back on commodity support payments—for instance, those that subsidize corn, which is grown largely to produce high-fructose corn syrup—and diverting those funds into food stamp programs that would facilitate the purchase of minimally processed fruits, vegetables, and whole grain products).

9. See Michele Simon, *Money, Politics, Garbage, and School Lunch* (August 25, 1998), available at <http://www.pacificnews.org/jinn/stories/4.17/980825-lunch.html> (last visited April 14, 2007).

10. E.g., Jess Alderman & Richard A. Daynard, *Applying Lessons from Tobacco Litigation to Obesity Lawsuits*, 30 AM. J. PREVENTIVE MED. 82, 84 (2006) (“Food companies are a powerful lobby in Washington, make campaign contributions, and actively seek to influence food and nutrition professionals by funding their research or hiring them as consultants. Food company executives and [USDA] officials often have close relationships, and in some cases, they switch roles over time.”).

Yet, many have concluded that government has an affirmative role to play with respect to childhood obesity,¹¹ although they are very much divided over what that should be. For example, after acknowledging the human frailties of parents and their children, some urge government to make efforts to inform the public about healthy eating and healthy activities.¹² But, they argue, governmental action going beyond the informational and educational functions would be too oppressive.¹³

Others are looking for a much more robust governmental response.¹⁴ They question the effectiveness of measures such as calorie disclosures at fast-food restaurants, better labels on grocery store products, nutrition education in public schools, and the like.¹⁵ They do not necessarily oppose requiring such measures, but rather they predict that these devices will be inadequate to solve the problem.¹⁶ We believe this concern is compelling, given mounting evidence that our food choices are not truly our own and are likely to remain that way as long as we live in a world of food advertising, promotion, and increased portion size.

This concern leads advocates to call for stricter regulatory intervention.¹⁷ Some examples of proposed action are (1) eliminating certain food items from school vending machines;¹⁸ (2) requiring

11. See, e.g., M. Gregg Bloche, *Obesity and the Struggle Within Ourselves*, 93 GEO. L.J. 1335, 1351–58 (2005).

12. See, e.g., *id.* at 1353–54 (“[P]ublic health authorities ought to bring their credibility and resources to the task of transforming public understanding of food and fitness matters.”).

13. See, e.g., *id.* at 1338 (“[Government command and control intervention] is at odds with our core beliefs and unlikely to produce public health success.”).

14. See, e.g., Benforado et al., *supra* note 1, at 1723 (“As misgivings [about the food industry] grew and individuals began to take seriously the possibility that fast food was exercising more influence over our consumption habits than we had realized, an idea was born: force the industry to change, whether through regulation or lawsuits.”).

15. See, e.g., *id.* at 1675–89 (arguing that food companies are able to manipulate external psychological cues that cause unhealthy eating decisions even where good information is provided to consumers).

16. See, e.g., *id.* at 1791 (“Labeling regulations likely serve a palliative function, but they do not get to the root of the problem . . .”).

17. For a recent summary of a wide range of potential government interventions to attack the obesity problem, see generally Lawrence O. Gostin, *Law as a Tool to Facilitate Healthier Lifestyles and Prevent Obesity*, 297 JAMA 87 (2007). Most of the ideas that Gostin discusses are command-and-control strategies.

18. Michelle M. Mello et al., *Obesity—The New Frontier of Public Health Law*, 354 NEW ENG. J. MED. 2601, 2603 (2006) (“The policies of school districts have been criticized for contributing to what researchers describe as a ‘toxic environment’ for children: about 60 percent of U.S. middle schools and high schools sell soft drinks from vending machines on campus,

schools and workplaces to include healthier menu items;¹⁹ (3) sharply restricting the inclusion of trans fats in foods prepared by food service establishments;²⁰ (4) limiting the density of fast-food restaurants near facilities where children gather;²¹ (5) forbidding the retail sale of certain junk food to children;²² (6) eliminating the advertising of sweet or high fat foods in connection with children's television programs;²³ (7) upgrading school lunches so that they are healthier;²⁴ (8) requiring cities to subsidize grocery stores that sell fresh fruits and vegetables in low income areas;²⁵ (9) assuring all children safe access to parks and bicycle paths;²⁶ and (10) requiring schools to increase the duration and intensity of physical education.²⁷

although this is likely to change under guidelines recently established by the beverage industry to curtail such sales by 2010.”) (citations omitted).

19. Gostin, *supra* note 17, at 87–88.

20. New York City recently enacted a regime that prohibits restaurants from preparing food with more than a minimal amount of trans fat. Notice from the N.Y. Board of Health on the Adoption of an Amendment (§ 81.08) to Article 81 of the New York City Health Code (Dec. 5, 2006) (on file with the *Duke Law Journal*), available at <http://www.nyc.gov/html/doh/downloads/pdf/public/notice-adoption-hc-art81-08.pdf>.

21. See James F. Sallis & Karen Glanz, *The Role of Built Environments in Physical Activity, Eating, and Obesity in Childhood*, FUTURE OF CHILDREN, Spring 2006, at 89, 97 (2006).

22. Banning the sale of junk food near schools would facilitate restrictions of advertising near schools because the regulated commercial speech would no longer concern lawful activity. See Randolph Kline et al., *Beyond Advertising Controls: Influencing Junk-Food Marketing and Consumption with Policy Innovations Developed in Tobacco Control*, 39 LOY. L.A. L. REV. 603, 611–13 (2006) (“If a product cannot be lawfully sold, then the First Amendment, via *Central Hudson*, does not protect the advertising of the product.”).

23. See Lee J. Munger, Comment, *Is Ronald McDonald the Next Joe Camel? Regulating Fast Food Advertisements Targeting Children in Light of the American Overweight and Obesity Epidemic*, 3 CONN. PUB. INT. L.J. 456, 457–58 (2004); see also Mello et al., *supra* note 18, at 2605 (“[T]here would be less difficulty today in establishing an association between food advertising and children’s eating habits and obesity.”). Indeed, “[t]he results of recent opinion polls indicate that a majority of Americans believe that the government should be involved in fighting obesity, particularly by regulating the marketing of ‘junk foods’ to children.” Mello et al., *supra* note 18, at 2602 (citations omitted).

24. See generally Simone A. French, *Pricing Effects on Food Choices*, 133 J. NUTRITION 841S, 843S (2003) (proposing that schools encourage healthier lunch choices by raising the prices of high-fat foods and lowering the prices of low-fat foods).

25. LISA M. FELDSTEIN ET AL., CAL. DEP’T HEALTH SERVS., ECONOMIC DEVELOPMENT AND REDEVELOPMENT: A TOOLKIT ON LAND USE AND HEALTH 4-9 to -11 (2006), available at http://healthyplanning.org/ecdev_toolkit/EcDevToolkit.pdf.

26. See generally John J. Librett et al., *Local Ordinances that Promote Physical Activity: A Survey of Municipal Policies*, 93 AM. J. PUB. HEALTH 1399 (2003) (discussing local policies affecting both children and adults).

27. See generally Andrew Smith & Stephen Bird, *From Evidence to Policy: Reflections on Emerging Themes in Health-Enhancing Physical Activity*, 22 J. SPORTS SCI. 791, 796–97 (2004)

What we want to emphasize is that, by and large, these recommendations are for what we would term “command-and-control” regulation. Proposals like these rest on the belief that professional public health experts know how the regulated parties should behave, and so the point of regulation is both to spell out that behavior and enforce effectively the specified obligations.

We should also mention here that other advocates believe the solution to childhood obesity, at least initially, lies in courtrooms rather than legislatures or regulatory agencies. These advocates would like to see already-obese plaintiffs have access to courts through a novel cause of action sounding in negligence or products liability.²⁸

We count ourselves among those who seek government action, but we are not proposing the command-and-control approach, and we are not keen on litigation²⁹ or other possible interventions as the solution. Instead, we believe that a system of *performance-based regulation* (PBR) holds greater promise for dealing with the obesity crisis by imposing duties on the food and beverage industry that contain an appropriate balance of firmness and flexibility.

In this Article we lay out in detail a scheme of performance-based regulation as a way of combating America’s childhood obesity problem. In a nutshell, our proposal assigns large firms that sell food or drink containing high levels of sugar or fat the responsibility for reducing obesity rates in a specific pool of children. The basis for a firm’s share of the overall responsibility will be its share of the “bad” food market, and the children assigned to it will be organized by geographically proximate schools where obesity rates are above the plan’s nationwide target rate of 8 percent. Participating firms will have ten years to reduce the obesity rate in their assigned schools by more than 50 percent, and will face substantial penalties starting at the end of the fifth year if they fail to meet the regulatory goals.

Part I of this Article explains PBR as a regulatory strategy and compares it with a range of other approaches to the childhood obesity

(arguing for a physical education curriculum to encourage physically active modes of transportation).

28. See Samuel J. Romero, Comment, *Obesity Liability: A Super-Sized Problem or a Small Fry in the Inevitable Development of Product Liability?*, 7 CHAP. L. REV. 239, 277–78 (2004). “At times the mere threat of litigation is enough to induce an industry to change its ways.” Alderman & Daynard, *supra* note 10, at 85. Some researchers, however, believe “it is not likely that food personal injury cases would be successful at this time.” *Id.* at 86.

29. See *infra* Part III.

issue. Part II justifies the application of PBR to the food industry. Part III argues the superiority of PBR over tort law for dealing with childhood obesity. Part IV then lays out our proposal in detail. Parts V and VI respectively discuss the politics entailed in implementing the plan and the compliance strategies firms would likely adopt. Finally, Part VII highlights alternative PBR strategies for combating obesity.

We concede at the outset that more data would permit us to improve features of our plan, and we imagine there will be disputes over the plan's precise parameters even among those who favor our approach. But we consider it essential to specify our proposal in some detail because we have found that when we briefly present the idea, most people instinctively conclude that it is impractical, whatever its theoretical attractiveness, its moral force, or its political prospects. (Although some estimate the latter to be close to zero currently, this does not trouble us for now, as we are only at the point of launching our idea into the policy arena.)

I. ABOUT PERFORMANCE-BASED REGULATION

A. *Compared with Command-and-Control Regulation*

To better explain what we mean by PBR, we will first contrast it with command-and-control regulation. Suppose that the regulator aims to address the amount of pollution in the air. With command-and-control regulation, it might direct factories to install certain filters on their pipes that spew pollutants into the atmosphere—filters that the regulator believes will best reduce the factory's contribution to air pollution levels. In deciding what remedial measure(s) to order, regulators are likely not only to take into account the cost of the new filters and their effectiveness, but also to compare that choice with other options, such as ordering the factory to use different fuels or to alter the ingredients it uses in production. In the end, the regulator tries to order the socially optimal solution, all things considered.

Similarly, in the arena of worker health and safety, a regulator could require a factory to make all of its employees wear face masks for certain tasks, in the hopes of best reducing the incidence of respiratory disease. Again, the regulator might have considered requiring certain air ventilation systems at the workplace or precluding the use of certain chemicals in making some products. The assumption underlying such a regulatory scheme is that the expert

regulators can determine the optimal solution to the problem at hand and then order the relevant actors to comply.

Within the context of childhood obesity, one frequently touted command-and-control example is a ban on the sale of sweetened beverages in public schools, based on expert determination that this supply-curtailement strategy would reduce obesity rates.³⁰

By contrast, PBR does not tell the relevant actors how to behave in solving the problem. It does not order enterprises to force their workers to use masks or to put filters of a certain sort on their smokestacks (or to pull their Cokes and Pepsis from school cafeterias and vending machines). Instead, PBR tells a firm or industry what its outputs or results should be with regard to a certain problem. Then, the regulated party itself has the responsibility of figuring out how best to achieve the required performance. In the environmental regulation scenario, for example, a factory might be told to reduce its emission rate of a certain pollutant to X parts per billion. It would then have to determine how to best effectuate this outcome. It might add filters, or it might do something else. Similarly, in the worker-safety example, a factory might be required to reduce the incidence of respiratory diseases to a certain level. Perhaps face masks are the right solution, but the factory would be free to solve the problem using other strategies, including changing the materials with which workers come into contact or reducing the number of hours each worker is exposed to the materials. So, too, as we will explain in detail,³¹ applying PBR to childhood obesity would mean, under our proposal, ordering the food and beverage industry to take steps to reduce obesity prevalence rates, but leaving it up to them to figure out the best way of achieving that outcome.

The central justification underlying PBR is that when government regulators use command-and-control regulation, they too often make the wrong choice. They select a solution that is more costly than necessary or one that is less effective than another. They often order yesterday's technology instead of tomorrow's.

30. Judge Richard Posner supports antiobesity measures aimed at reducing consumption of soft drinks by children, as “[s]oft drinks have virtually no nutritional content (unlike foods rich in cream or butter), and recent studies indicate that they are a significant factor in obesity” Richard Posner, *The Fat Tax—Posner’s Comment*, THE BECKER-POSNER BLOG, Oct. 8, 2006, http://www.becker-posner-blog.com/archives/2006/10/the_fat_taxposn.html (last visited Mar. 27, 2007).

31. See *infra* Part IV.

Government frequently imposes nonoptimal regulatory requirements because the relevant regulator all too often is neither sufficiently informed about current alternatives nor the right party to work out, or even be on top of, more effective solutions in the future. By contrast, PBR counts on the idea that the regulated party can either use its repository of information and experience, or draw on that of others, to develop the cheapest, most efficient, and most effective way to accomplish the regulator's goal.

But PBR does not merely lie back and wait for the market to bring about the socially desired change. Instead, PBR selects the party it thinks is responsible for the problem and well situated to solve it, and then imposes on that party the obligation to do so. PBR is not simple. It requires deciding who the appropriate subject of regulation is and what level of performance is necessary. On top of that, it is also necessary to figure out how to measure compliance and what penalties to impose for noncompliance. Yet, most of these elements are broadly similar to the requirements of command-and-control regulation. There, too, the regulator has to decide, for example, which polluters to target, what to order them to change, how to decide whether they have done so, and what to do about it if they have not. Hence, although some aspects of the regulatory process may be more problematic than others depending upon the approach, the central difference is best captured by the distinction between regulating inputs and outcomes.

B. Compared with Participatory Regulation

PBR and command-and-control regulation are by no means the only strategies available to regulators. For example, a quite different regulatory strategy rests on the notion of participation.³² Here, the regulator requires participation in an industry's decisionmaking by those directly affected by it. For example, workers themselves might have a voice in deciding how to enhance worker safety at a specific enterprise. In the case of environmental regulation, the individuals living in the surrounding community might have input into how the factory deals with the pollution problem.³³ And in the childhood

32. See, e.g., Orly Lobel, *Interlocking Regulatory and Industrial Relations: The Governance of Workplace Safety*, 57 ADMIN. L. REV. 1071, 1104–15 (2005) (discussing participatory regulation of workplace safety).

33. See generally Charles F. Sabel et al., *Beyond Backyard Environmentalism: How Communities Are Quietly Refashioning Environmental Regulation*, 24 BOSTON REV. 4 (1999)

obesity area, food and beverage companies might be required to meet and confer with consumer advocates for public health regarding the ingredients in their products, the way they are marketed, and the way the public is informed about their healthy or unhealthy attributes.

Under this approach, the regulator tells firms neither what they must achieve nor how they are to do things. Instead, the regulator requires the firms to open themselves up to input from parties—other than the regulator—who may be harmed by the firms' activities and whose interests the regulator is seeking to further. This is a "process" solution, and the justification underlying it is that by giving voice to the social interests at stake, the regulated enterprises will become more socially responsible.

As with PBR, this approach is based on the belief that the regulator alone cannot determine the socially correct solution, either for the reasons already given, or because there are values at stake that the regulator cannot sensibly weigh.

Of course, the way any participatory solution plays out might well turn on precisely the form the required participation takes. Must the firm only listen to the participants? In precisely what forums must the participants be heard? Who decides who the participants are? What leverage points are the participants given to press an industry to act upon their views?

Obviously, a recognized labor union operating under a collective bargaining agreement might well be more effective in promoting worker safety through its members' participation in the firm's safety program than might a firm-appointed committee with no powers to call a strike if needed. But participants do not necessarily need to have that sort of union power, at least if they are able to mobilize, say, worker and public opinion on behalf of their position.

Other forms of participant leverage are also imaginable. Consider, for example, the role of so-called "outside directors" on corporate boards of directors. Today's "outside directors" are mainly viewed as having the duty to prevent director and executive self-dealing to the detriment of shareholders, and to ensure that executive compensation is not extraordinarily excessive. But one could at least imagine an outside director, or several, with the obligation to look out

(proposing greater local community input in the environmental regulatory process through a "rolling-rule" regime).

for interests of other constituents, including workers, consumers, and third parties impacted by enterprise externalities.

For now, our point is only to contrast the underlying assumptions of participation and PBR. With PBR, outcomes are specified, not processes. Maybe firms subject to PBR will choose to create their own participatory structure, at least if they think that will help them better achieve their outcome target. But that is a decision for the regulated party to make.

C. *Compared with Management-Based Regulation*

Next, we wish to note another method of regulation, termed “management-based.” We view this as a different sort of “process” regulation. Under this approach, the regulated firms or industries are merely required to design proposals for solving the identified problems, and then to implement those proposals.³⁴ Unlike PBR, the regulator does not specify the level of improvement; nor does the regulator dictate the nature of the solution, as would be the case in command-and-control regulation.

Management-based regulation is a kind of “soft law” that demands participation of a different sort. Here, either single firms or groups of them must work with the regulator, putting forward their way to attack the social problem identified by the regulator.³⁵ For example, electric utility companies and automakers might be asked what they propose to do, either jointly or separately, to solve the air pollution problem. Or firms that use polyvinyl chloride might be asked to develop a plan to reduce or eliminate the health problems it

34. Cary Coglianese & David Lazer, *Management-Based Regulation: Prescribing Private Management to Achieve Public Goals*, 37 L. & SOC'Y REV. 691, 694 (2003).

35. Although not strictly “management-based,” some people favor the strategy of self-regulation. For example, one article observes:

[T]he success of government regulation of the food industry will probably fall short of what industry could accomplish alone if it were strongly motivated to do so. Efforts to encourage self-regulation and corporate responsibility could go far toward improving the healthfulness of foods sold, provided the industry responses heed the limits of antitrust law and do not displace meaningful external regulation.

Mello et al., *supra* note 18, at 2607. Similarly, in the area of children’s television, although “advocates have questioned the effectiveness of [the Children’s Advertising Review Unit’s] efforts” due to “problems with current enforcement activities and inadequacy in the scope of existing guidelines,” the industry has adopted voluntary self-regulatory standards. Salinsky, *supra* note 1, at 12. Salinsky also notes that the Institute of Medicine “concluded that voluntary industry efforts were likely to be more feasible and expedient than increased government regulation, but it also recommended that regulatory interventions might be needed in the future if industry efforts appear inadequate.” *Id.* at 13.

causes plant workers. Or food and beverage companies might be asked to put forward and then comply with their own plans to reduce childhood obesity.

Under this scheme, the regulator might have the power to question the proposed solution, to publicize its shortcomings if any, and so on. But the regulator cannot insist on a different input solution or on certain outcomes. The potential benefits of this approach are that it may further government-industry harmony in pursuit of the public interest as well as increase the likelihood of compliance without need for strong enforcement. Of course, it risks achieving a socially insufficient solution. In this respect, PBR mandates more stringent compliance mechanisms than management-based regulation. Yet PBR, like management-based regulation, also relies on those causing the problem to figure out how best to solve it.

D. Compared with Tort Law

Tort law is yet another possible regulatory strategy.³⁶ Simply put, tort law threatens automakers, for example, with legal liability if they fail to take socially desirable precautions that would make their cars safer and thereby reduce harm now arising from motoring. This threat of civil liability is supposed to promote safety on the theory that a car company will both realize and act on the fact that it will often be cheaper to make product improvements than to incur the costs of liability. These costs include not only the monetary damages the firm would have to pay to successful victims, but also defendant litigation costs (most importantly legal fees and the time that firm employees have to put in defending the case), as well as the cost of any bad publicity that might arise from being successfully sued.

One of the advantages claimed for tort law is that it does not require government regulators of the usual sort. Instead, private party victims serve to police the conduct of those who would be the object of other sorts of public regulation. Moreover, if tort law works well in its deterrence role, then safety gains occur almost by magic, seemingly without governmental interference at all. Of course, if people actually sue, then the judicial branch is called into play.

Basic tort doctrine comes in two forms—fault-based (or negligence) liability and strict liability. And, on closer examination, it turns out that there are significant parallels between negligence-based

36. See *supra* note 28 and accompanying text.

tort law and command-and-control regulation, on the one hand, and between strict liability tort law and PBR, on the other.

1. *Negligence and Command-and-Control Regulation.* In the negligence regime, the plaintiff must show that the defendant breached a duty of care owed to the plaintiff, and that this breach legally caused the plaintiff's injury and resulting damages. To prove a breach, the plaintiff must demonstrate that the defendant acted unreasonably. This means that the plaintiff bears the burden of coming up with a convincing explanation as to what reasonable measures the defendant should have taken.

The precautions required by the negligence regime are the counterpart to the precautions required by command-and-control regulation. In both cases, an agency of government tells the regulated parties how they should act. That is, a public body is deciding on behalf of society which safety measures ought to be taken and which need not be.

To be sure, there are distinctions between the two systems. Perhaps most importantly, command-and-control regulation relies upon expertise of the agency in charge. American tort law, by contrast, relies on a combination of generalist judges and nonexpert jurors. Yet, this distinction should not be exaggerated. Negligence law expects triers of fact to become educated about the competing views of what precautions are appropriate through the adversarial system that underlies American tort litigation. Hence, just as car companies and auto safety consumer groups are likely to present competing views to the National Highway Transportation Safety Administration as to what sort of bumpers or air bags should be required of motor vehicles, so, too, are those same voices likely to be heard through witnesses called by both sides in a tort case concerning whether the defendant placed the gas tank in an unsafe location. Perhaps, in the end, agency officials may be better able to decide which side has the more convincing argument; and, in fact, if an agency has already made a relevant decision, the tort system will typically defer to it in deciding what the reasonable precautions are in the situation before it. Yet, agencies sometimes impose only minimum requirements, not optimal ones, and when that is the case, tort law could be more accurate in reflecting the socially desired course of action. To be sure, jurors (and even judges) might be quite unsophisticated and unduly influenced by courtroom theatrics; but then, agencies may be unduly influenced by the political power of the business community and the

agency capture that occurs when friends of the regulated parties take on agency roles.

A second seemingly key distinction between the two systems concerns the moment at which government steps in to decide the socially proper behavior for the regulated party to take. Command-and-control regulation relies on *ex ante* announcements of how firms should act, although agencies can, of course, alter their decisions over time as technology changes, values change, more information comes to light, and so on (although they typically only apply their requirements on a going forward, or prospective, basis). Negligence law, by contrast, depends on *ex post* determinations of what firms should have done, decisions that are, in a sense, applied retroactively.

Yet, too much should not be made of this distinction either. After all, firms often have a good idea in advance as to what precisely tort law will require of them given what it required in prior similar cases, notwithstanding the fact that, like agencies, the common law of torts can adjust the rules over time to reflect changing social understandings of what is reasonable. To be sure, if a potential tort defendant can figure out a way to avoid accidents it will not be sued, and in that event its precautionary strategy will not be second-guessed by a jury as occurs when someone is injured and a negligence case is brought. Nonetheless, those who create risks know that if someone is injured, their conduct is subject to public examination, and the legal system may well decide that they failed to act in a socially appropriate and safe manner by not taking *X* precaution. Similarly, in command-and-control regimes, the regulated party risks being told by the relevant agency that it acted irresponsibly by failing to take *X* precaution.

Third, of course, the penalty structure of the two regimes differs, with negligence law requiring payments to victims and command-and-control regimes imposing public penalties. Moreover, the amount of the public penalty will depend most likely on the seriousness of the failure to comply, whereas the private “penalty” imposed by tort law is normally a function of how much harm the victim happened to have suffered, and the same failure to take proper precautions can often yield a very wide range of harms. Yet, even here, some factors work to narrow this difference. For one thing, the variability in the harm suffered by individual victims tends to average out, either because the defendant injures several people over time, or because the purchase of liability insurance distributes the cost over all the insureds. For another, the availability of punitive damages in tort law permits this

scheme to threaten, and if need be, actually penalize, grave misconduct in ways that tend to reflect its egregiousness.

A final point concerns the difference in enforcement. Mere failure to implement the socially appropriate measures will not invoke tort law. Resultant harm is also required. By contrast, in command-and-control regulation schemes, a firm is subject to noncompliance penalties regardless of whether anyone has actually suffered injury. Yet, once more, there may be less of a difference here than first appears, given that regulators often do not have sufficient staffing to police compliance with their orders, and, as a result, they often only take action to deal with noncompliers after a mishap has occurred.

In the end, whatever one thinks of these differences, the core commonality remains—that both negligence law and command-and-control regimes focus on how people should act to further public safety.

2. *Strict Liability and Performance-Based Regulation.* In contrast to negligence, a regime of strict liability in tort does not require a finding of unreasonableness on the part of the defendant. In fact, that is its defining characteristic. This means that if strict liability applies to the case, the victim need not investigate what alternative actions, precautions, or technologies the defendant should have implemented to avoid the harm. The victim is entitled to compensation simply because there was a bad outcome.

Here lies the parallel with PBR. With PBR, the regulatory regime cares about outcomes, and not specific ways of achieving them. Put differently, in both of these regimes the regulator does not interfere with the firm's mode of operation. The firm decides what precautions to take to avoid strict liability in tort, just as the firm decides how to comply with the outcome demanded by PBR to avoid PBR penalties for failing to achieve that outcome.

Part of the appeal of both PBR and strict liability, then, is the assumption that the firm has (or has access to) superior information, experience, and flexibility, and is thus better equipped not only to deploy the best methods for reducing harm today but also to experiment with various approaches to avoid harm more effectively

in the future. In this respect, both might be viewed as technology forcing.³⁷

At the same time, both strict liability and PBR contain a similar risk. They both depend upon properly identifying the party that is indeed best able to figure out what are the most appropriate precautions to take, or, as Guido Calabresi emphasized in the accident (and tort) setting, deciding *who* is the cheapest cost avoider.³⁸ Put differently, under command-and-control regulation and negligence, the government agency decides *what* actions parties should take, whereas under PBR and strict liability, the government agency decides *who* should be delegated the responsibility to decide what those actions should be. And, of course, the regulator (whether an agency or legislature in PBR, or a judge in strict liability) might pick the wrong party to subject to the regulation.

Nevertheless, that is not necessarily fatal. Firms subject to either strict liability or PBR can find others with whom they can contract to figure out safer practices, or the targets of the regulation can provide financial or other incentives for other parties to change their behavior. And although this may increase the cost of getting to the socially desirable outcome, it is a matter of “as compared to what.” If the comparison is with negligence law and command-and-control regimes, what needs to be weighed in the balance is the risk that the agency or the jury will specify the wrong precaution.

Although it is true that tort law relies primarily upon fault-based liability and not strict liability, strict liability applies in at least three important areas, and they nicely illustrate situations in which the law is arguably quite sensible in delegating to the relevant enterprises the obligation to figure out the best way to avoid injury. These are (1) mismanufactured products that come off the assembly line containing harmful defects (e.g., the occasional exploding beverage bottle); (2) fairly uncommon activities that nonetheless contain the potential of great harm (e.g., dynamite blasting); and (3) the vicarious responsibility of employers for the misconduct of their employees, thereby avoiding a determination of whether the employer

37. For the general argument on this point, see Justice Roger Traynor’s famous concurring opinion in *Escola v. Coca Cola Bottling Co.*, 150 P.2d 436, 440–44 (1944).

38. See GUIDO CALABRESI, *THE COSTS OF ACCIDENTS* 135–73 (1970) (detailing a “general deterrence approach” to accident liability allocation that would place costs with the actor that could have most cheaply avoided the accident).

inadequately supervised or trained, or improperly hired, the individual whose fault brought about the harm unnecessary.

Later, we will explain why it is that, if one wants to attack childhood obesity with an outcomes-based scheme, it makes more sense to develop a PBR regime than to impose strict liability in tort.³⁹

We should also note in passing that some people support tort law, not because they are convinced of its ability to change corporate behavior through the threat of liability, but rather because they believe that discovery rules and public trials combine to force corporate misconduct that otherwise might remain secret into the open.⁴⁰ We acknowledge that the success of tort litigation in exposing bad behavior of food and beverage companies may improve the political prospects of adopting PBR. Yet, that sort of interim objective is not our focus here.

E. Compared with Subsidies and Taxes

Finally, another way to create incentives for individuals or firms to change behavior is to make it cheaper or more expensive for them to act in certain ways—most directly by offering subsidies or imposing taxes. This approach differs from command-and-control regulation by leaving it up to the market and its participants to play out the consequences of the increase and/or decrease in cost caused by the governmental intervention. Although this approach assumes that taxes or subsidies will ultimately alter consumer behavior, it differs from PBR because it does not specify any particular outcome.

PBR penalizes a firm (analogous to a tax) only if it fails to achieve a regulatory target. Hence, PBR (more akin to tort law) relies more on the threat of a tax than actually imposing the tax. When government employs a tax strategy, the party subject to the tax has to figure out how to respond to this cost increase—most likely, by raising the price of what it is selling. Under PBR, firms could also elect to raise prices as a way of meeting their performance goals. Yet that is but one of the options available to them.

39. See *infra* notes 111–12 and accompanying text.

40. See, e.g., Wendy Wagner, *Stubborn Information Problems and the Regulatory Benefits of Gun Litigation*, in *SUING THE GUN INDUSTRY: A BATTLE AT THE CROSSROADS OF GUN CONTROL AND MASS TORTS* 271, 272 (Timothy D. Lytton ed., 2005).

F. Examples of Performance-Based Regulation

In various forms, PBR has been implemented in a number of different areas. In this Section, we detail two important examples from the fields of education and the environment to illustrate salient features of, and typical problems faced by, this method of regulation.

1. *No Child Left Behind*. The No Child Left Behind Act⁴¹ (NCLB) is a piece of federal legislation inspired by standards-based education reform movements in a number of states, most notably in Texas.⁴² NCLB mainly applies to states and school districts receiving Title I federal funds, by requiring states to:

1. set standards for academic content and student achievement, to establish a state's baseline for adequate education, applicable to all schools and students in the state;⁴³
2. create standardized tests aligned with these standards;⁴⁴
3. report the results of these tests, broken down by relevant ethnic and socioeconomic subpopulations;⁴⁵
4. develop "annual yearly progress" goals to ensure that each subpopulation can meet the state's standards within twelve years;⁴⁶
5. produce "report cards" ranking each subpopulation's performance on state standardized tests, for each school under the local educational agency's (LEA's) control, and develop an overarching accountability system to help schools meet their performance targets;⁴⁷
6. provide awards for schools that "significantly closed the achievement gap" between students from different ethnic groups;⁴⁸
7. create opportunities for meaningful involvement of the parents of participating children.⁴⁹

41. No Child Left Behind Act, Pub. L. No. 107-110, 115 Stat. 1425 (2002) (codified as amended primarily in scattered sections of 20 U.S.C.).

42. James S. Liebman & Charles F. Sabel, *The Federal No Child Left Behind Act and the Post-Desegregation Civil Rights Agenda*, 81 N.C. L. REV. 1703, 1721 (2003).

43. *Id.* at 1722.

44. *Id.*

45. *Id.*

46. *Id.*

47. *Id.*

48. *Id.* at 1722-23.

Although the NCLB is most akin to PBR, it also contains aspects that are arguably “management-based” (i.e., the development of “annual yearly progress” goals), and “participatory” (i.e., opportunities for parental involvement). In addition, because NCLB also contains various directives to the school districts, it may also contain some aspects of the traditional command-and-control regulation. But the most important feature of NCLB is that it requires schools to achieve academic results, and it leaves it up to schools to decide how to reach those outcome goals (at least at the beginning). Moreover, various consequences flow from failing to meet the mandated goals (what might be termed penalties, so far as schools and school districts are concerned). Hence, overall, NCLB nicely typifies the PBR approach.

At the same time, we believe that NCLB also reveals certain pitfalls of PBR, some of which, in our view, could be avoided by reforming NCLB itself. Others might be unavoidable in the field of public education, but not when it comes to other providers of goods or services regulated though PBR. Nonetheless, we think it helpful to illustrate with NCLB potential key problems with getting PBR right.

a. Properly Specifying the Outcome. The phrase “teaching to the test” captures one problem with NCLB. The outcomes to which schools are held accountable may not reflect the most important skills that students should develop, but, rather, the skills that are simplest and cheapest to assess.⁵⁰ For instance, it is expensive to develop a uniform system of evaluation for student writing.⁵¹ So, as a substitute, student results on multiple-choice grammar tests may serve as a measure for educational gains.⁵² Because of the mismatch between the truly desired social outcome and the measure employed to judge whether students have learned what they should, schools focus too little on writing.⁵³ Worse, they may spend even less time on teaching writing skills than they would have before NCLB, because now they are focusing on “teaching to the test.”

49. *Id.* at 1723.

50. See Richard J. Murnane & Frank Levy, *Will Standards-Based Reforms Improve the Education of Students of Color?*, 54 NAT'L TAX J. 401, 407–08 (2001).

51. *Id.* at 407.

52. *Id.*

53. *Id.* at 408.

A different problem with the outcome requirements of NCLB is that the states set them, and not the federal government.⁵⁴ Thus, states have an incentive to set low standards to have their schools “look good” and to avoid penalties for failures. And, indeed, those states that imposed “tough” graduation requirements in earlier years are replacing higher outcome standards with lower ones as the data begin to show high levels of failure under NCLB. This retreat from the objectives of PBR can be a recipe for regulatory ineffectiveness.

b. Accurately Determining Whether the Specified Outcomes Have Been Achieved. Second, some schools may manipulate the test data they report. Perhaps most outlandishly, classroom teachers might give students answers to the tests in advance, or change student answers, to demonstrate better than actual educational achievement. As another example, if the outcome tests only take into account the scores of general education students, this measure may not capture a school’s performance with respect to those in special classes, such as disabled students or those who are still developing competency in the English language.⁵⁵ This leads to two difficulties. First, schools are not held to answer for the quality of education they are affording these latter sorts of children. In addition, schools may actually shunt other low-performing students into these alternative programs so that they do not “drag down” the numbers achieved by the rest of the general education students.⁵⁶ As a consequence, the shunted students get shortchanged, and the school appears to have accomplished more than it really has.

c. Assuring That the Regulatory Target Is Able to Achieve the Required Outcomes. Third, there is the capacity problem. Many have charged that large numbers of public schools serving high-needs children simply do not have the financial resources to implement the changes necessary to meet the performance standards that NCLB has imposed on them.⁵⁷ Also, there is a risk of an unavoidable downward spiral for an initially failing school. Suppose that, in the first round of measuring achievement, students attending an altogether underfunded school fail to meet the required standards. In fact,

54. Liebman & Sabel, *supra* note 42, at 1722.

55. Murnane & Levy, *supra* note 50, at 408.

56. *Id.*

57. *Id.* at 411.

meeting these standards would have been unlikely no matter who was put in charge of the school. But now the school might have an even tougher time recruiting talented teachers, leading to even worse results the next year, and so on.⁵⁸

d. Imposing an Effective Enforcement Mechanism. Finally, NCLB itself has weak enforcement provisions.⁵⁹ Even though the law sets up some obligations for states and school districts, it includes very little federal monitoring of school progress, and almost no mandatory enforcement provisions.⁶⁰ Certain penalties are supposed to flow from a school's failure to meet its annual yearly progress, but it is by no means clear that fear of these penalties will serve as an effective prod to get a school to perform better. Moreover, some of the penalties currently seem to be easily ignored in many communities, such as the requirement that families with students in failing schools be given the opportunity to send their children to a more successful school in the district.

Despite its flaws, NCLB (or better, an amended NCLB) does hold promise for real education reform. By providing a way for parents to compare the performance of similarly situated schools, as well as financing school choice under certain circumstances,⁶¹ the law sets up a benchmarking regime among the schools, which has the potential to create a "race to the top."⁶² In addition, a nationwide movement comprised of multitudinous approaches to improving educational outcomes—especially for traditionally disadvantaged groups—creates the opportunity for information pooling. This, in turn, might give rise to "rapid learning" among successive generations of reformers.⁶³ In the meantime, at least partially spurred by NCLB, states themselves are making some progress with standards-based reforms. "Standards are becoming more clear; assessments are improving; professional development is becoming more focused."⁶⁴

To review, despite its potential for improving educational outcomes for broad classes of children, the problems of NCLB we

58. *Id.*

59. Liebman & Sabel, *supra* note 42, at 1724.

60. *Id.* at 1724–25.

61. *Id.* at 1723–24.

62. *Id.* at 1736.

63. *Id.*

64. Murnane & Levy, *supra* note 50, at 413.

have identified illustrate the importance of determining (1) the *nature* of the desired outcome (e.g., strong writing skills as compared to strong achievement on grammar tests); (2) the *scope* of the regulation (e.g., all schoolchildren as compared to a gerrymandered subset of them); (3) the *actors* best equipped to bring about the desired results; and (4) the *enforcement* mechanisms of the regulation.

2. *Air Pollution: the Regional Clean Air Incentives Market (RECLAIM)*. Los Angeles has implemented an environmental scheme to improve air quality that centered on the use of a declining cap in permissible emissions and tradable permits.⁶⁵ Under this PBR approach, the regulator establishes an aggregate level of pollution that the covered plants may emit in a given area in a given year (under the assumption that a decline in emissions by those plants will actually positively impact air quality).⁶⁶ The regulator then allots individual plants their own allowable levels of emission.⁶⁷ If one plant emits less than its allotment, its owner can sell to another firm the legal right to pollute by this amount.⁶⁸ Reciprocally, if a firm wants to emit more than its allocation, it can do so only if it can find one or more firms with the necessary excess allocation to sell.⁶⁹ In subsequent years, the cap for total emissions declines, thereby lowering each plant's allocation.⁷⁰ Other things equal, in each subsequent year there will be fewer excess allocations available to buy, making them more expensive.⁷¹ This, in turn, steps up the pressure on firms to develop newer and cheaper ways of reducing emissions, especially if, as is likely, the firms implemented less costly emissions reductions first.⁷²

Like other forms of PBR, the regulation here specifies the outcome—how much pollution will be allowed—and leaves it up to the regulated industry to figure out the best way to achieve this goal. Notice that with RECLAIM, the social goal was cast with respect to

65. Richard Toshiyuki Drury et al., *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9 DUKE ENVTL. L. & POL'Y F. 231, 247 (1999).

66. *Id.* at 237.

67. *Id.* at 237–38.

68. *Id.* at 238.

69. *Id.*

70. *Id.* at 248.

71. *Id.*

72. *See id.*

the total group of plants in the Los Angeles basin. To be sure, individual firms had initial outcome targets allocated to them as well. But, through trading, they could adjust their individual targets, so long as the covered firms as whole did not exceed the regulatory maximum.

There are potential benefits to employing this sort of tradable permits plan as part of PBR. Most importantly, this approach allows for firms to take pollution-reduction gains at locations where it is most efficient to do so. Company *X* may find that it is cheaper for it to buy a greater allocation of pollution permits than to reduce pollution at its site, provided that Company *Y* can more cheaply reduce its emissions so that it needs fewer of its allocated permits and hence has excess permits to sell to Company *X*. From the overall perspective, then, the social goal of reduced industry emissions should happen at the lowest financial cost.

However, a tradable permits scheme arguably has drawbacks. Perhaps the most important is known as “toxic hot spots.”⁷³ A “toxic hot spot” occurs when a firm that chooses to buy pollution credits rather than reducing its emissions ends up buying so many credits that pollution in the area surrounding the firm is much worse than it would have been under a command-and-control regulatory scheme.⁷⁴ Although the overall outcome of the PBR plan may be efficient from an economic perspective, it is a highly unwelcome result to members of the community that must bear the negative externalities arising from the hot spot. Worse, these hot spots are likely to be located in communities that are economically disadvantaged and politically powerless.⁷⁵ This is because the oldest and most polluting plants, which are the most expensive to make “cleaner,” tend to be in such neighborhoods.⁷⁶ The upshot is a distributional consequence that many find troubling.

Regulators could address this result by requiring neighbors of the now-clean plants to make payments to those living near the still-dirty plants. But this is a politically unlikely outcome given the typical

73. *Id.* at 251.

74. *Id.*

75. *See id.* at 254 (“The demographics of this hot-spot area starkly contrast with that of the metropolitan Los Angeles region. . . . [T]he racial composition of communities [in this area] ranges from 75 to 90 percent people of color, while the entire South Coast Air Basin has a population of only 36 percent people of color.”).

76. *See id.*

situation. And besides, even that remedy, in effect, allows the beneficiaries of the clean air to buy up the victims' desire for clean air with money, something that the victims may not prefer.

Thus, by specifying the social outcome in terms of aggregate emissions for a broad geographic area, the regulator may have failed to take into account the distinct citizen groups that comprise the subareas within the program's boundaries. In a sense, then, this deficiency of a tradable permits scheme is analogous to the NCLB problem of applying the outcome goals only to general education students, thereby creating a scheme that may seriously disadvantage students who are not in that group.

Some researchers say that, in its precise design, RECLAIM has succeeded only in helping the polluting firms, by lowering the costs associated with environmental compliance.⁷⁷ If, as claimed, the regulator permitted too much pollution at the outset, this could well have led to many firms finding themselves with excess permits despite not having made any real effort to reduce their emissions. And it is then easy to see how a glut of excess permits can reduce the cost of buying up excess allocations to almost zero. This allows other firms to acquire pollution permits so cheaply that it undermines any incentive they might otherwise have had actually to reduce pollution.⁷⁸ Another objection to RECLAIM is that the initial allocations to individual firms were unfair because they were based on incomplete and inaccurate information, thereby giving unfair advantages to some firms and unfair disadvantages to others.⁷⁹

Perhaps most importantly, this example illustrates how essential it is for any PBR scheme to properly determine the *level* of performance that is to be demanded. The standard must be rigorous, yet achievable. If it is too lax, it does not produce results, and can even have perverse effects—firms may pollute more than they would have under some other regulatory scheme, and with impunity. On the other hand, if the standard is too stringent, either it could overdeter some desirable economic activity by driving socially useful firms out of business or firms could declare the standard unmanageable and throw up their hands, acquiescing to the penalties. Although the money generated from the penalties (assuming for now that the

77. *See id.* at 235.

78. *Id.* at 266.

79. *See id.* at 268.

scheme employs financial penalties) can perhaps be put to good use, the scheme would then have essentially degenerated from a performance-based regulatory scheme into a simple (Pigovian) tax on the regulated firms,⁸⁰ thereby losing the benefits of having the regulated firms solve the social problem that was the point of PBR in the first place.⁸¹

II. JUSTIFYING APPLYING PERFORMANCE-BASED REGULATION TO THE FOOD INDUSTRY

Food is a necessary part of life and an important component of familial, social, and cultural interaction. It is also big business, with annual U.S. sales approaching \$900 billion.⁸² This year, each American will consume an average of approximately 25 pounds of candy,⁸³ about half of which consists of chocolate,⁸⁴ 16 pounds of chips,⁸⁵ 15 quarts of ice cream,⁸⁶ 23 pounds of pizza,⁸⁷ 16 pounds of french fries,⁸⁸ and 150 hamburgers.⁸⁹ And although many people consume these products and are not obese, all of these products contribute to the obesity problem nonetheless.

80. A Pigovian tax is “a tax enacted to correct the effects of a negative externality.” N. GREGORY MANKIW, *PRINCIPLES OF ECONOMICS* 780 (2d ed. 2001).

81. For example, the Kyoto treaty on “global warming” envisions sharp national reductions in carbon emissions. Although it does not specifically promote a tradable permit system like that of RECLAIM, it does state that signatories will implement policies that will help to correct market deficiencies and encourage reform in the relevant industries. The tradable permit system is one way of achieving those results. See Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22.

82. INST. OF MED., *FOOD MARKETING TO CHILDREN AND YOUTH: THREAT OR OPPORTUNITY?* 144 (2006).

83. Nancy Schaaf, *Candy: The Trivia and History of Our Favorite Sweets*, ASSOCIATED CONTENT, July 22, 2005, http://www.associatedcontent.com/article/6076/candy_the_trivia_and_history_of_our.html (last visited Mar. 27, 2007).

84. TheChocolateStore.com, *Candy Facts*, <http://www.thechocolatestore.com/candyfacts.aspx> (last visited Mar. 27, 2007).

85. Biing-Hwan Lin et al., *Fast Food Growth Boosts Frozen Potato Consumption*, 24 *FOOD REV.* 39, 39 (2001).

86. Patrick O'Connor, *Who Scooped Whom: The Great Ice Cream Cone Debate*, COLUM. NEWS SERVICE, Apr. 5, 2004, <http://www.jrn.columbia.edu/studentwork/cns/2004-04-05/655.asp> (last visited Mar. 27, 2007).

87. *Pizza Trivia*, <http://www.thepizzajoint.com/pizzafacts.html> (last visited Mar. 27, 2007).

88. Foodreference.com, *French Fries*, <http://www.foodreference.com/html/ffrenchfries.html> (last visited Mar. 27, 2007).

89. William C. Roberts, *Facts and Ideas from Anywhere*, 15 *BAYLOR U. MED. CENTER PROC.* 237, 239 (2002).

Beyond simply putting food and beverages into the market, firms in this industry spend huge sums promoting the purchase of their products. Although the total marketing investment by the food, beverage, and restaurant industries is unknown, “advertising alone account[ed] for more than \$11 billion in industry expenditures in 2004, including \$5 billion for television marketing.”⁹⁰ In addition to such “measured media marketing,” companies are increasingly employing unmeasured sales promotion techniques such as “marketing through product placement, character licensing, special events, in-school activities, and advergaming. In fact, only approximately 20% of all food and beverage marketing in 2004 was devoted to advertising on television, radio, print, billboards, or the Internet.”⁹¹

Firms direct much of this advertising toward children,⁹² and most of it is for junk food.

The nutritional characteristics of the food advertised in children’s programming are generally for high-calorie (e.g. high sugar or high fat) and low-nutrient foods and beverages . . . 44 percent of all food advertising in a sample of children’s television programming were in the “fats, oils and sweets” food group, the category of foods recommended to be the smallest proportion of one’s overall food consumption in the USDA food guidance system.⁹³

The food industry also wields a tremendous amount of political influence.⁹⁴ “The Center for Responsive Politics estimates that food and agriculture lobbyists spent \$52 million in 1998 on issues other than tobacco (on which they spent another \$67 million).”⁹⁵ Specific examples include “the National Cattlemen’s Beef Association [spending] \$400,000, the National Pork Producers Council [spending]

90. INST. OF MED., *supra* note 82, at 4.

91. *Id.*

92. See MARION NESTLE, FOOD POLITICS 181 (2002) (noting that the “children’s television-advertising market . . . accounted for \$1 billion” in 1999).

93. INST. OF MED., *supra* note 82, at 184; see also Mello et al., *supra* note 18, at 2601 (“American children are exposed to approximately 40,000 food advertisements per year, 72 percent of which are for candy, cereal, and fast food.”).

94. See NESTLE, *supra* note 92, at 193 (“Soft drink producers . . . blocked proposed restrictions on sales from vending machines, and fast-food companies won the right to continue selling items that had to meet nutritional standards only if they were sold as part of reimbursable school meals.”).

95. *Id.* at 102.

\$200,000, and Kraft General Foods [spending] \$120,000.”⁹⁶ “[M]ost food corporations favor Republicans because members of this party are more likely than Democrats to protect and promote business interests.”⁹⁷

Politicians are often willing to support the demands of food companies because they can defend such policies to their constituents under the theory of freedom of choice. After all, what politician would outlaw the great American hamburger or apple pie, if that is what a person chooses to consume?⁹⁸

More and more research, however, is undermining the assumption that people freely choose what to eat, when to eat, and how much to eat.⁹⁹ The academic debate about food choice comprises two opposing models for decisionmaking, “dispositionism” and “situationism.” Dispositionism is the belief that a people’s choices are the result of their character, tastes, and preferences, i.e., their dispositions. By contrast, situationism holds that people’s choices and actions are generally influenced more by the surrounding circumstances and environmental forces, i.e., their situations, than by their dispositions. In large part, the food industry’s advertising blitz, retail chain ubiquity, and sharply increasing portion size¹⁰⁰ create a “situation” that compromises the autonomy of food consumers. We conclude that this latter side of the debate has significant merit.

96. *Id.*

97. *Id.* at 106.

98. See Mello et al., *supra* note 18, at 2605 (“[T]he food, toy, broadcasting, and advertising industries . . . raised an unprecedented amount of money—\$16 million—to fight the [FTC’s] proposed rules [regulating advertisements aimed at children], and public opinion was unfavorably disposed to the FTC’s acting as a ‘national nanny.’”).

99. See generally Benforado et al., *supra* note 1 (arguing that situational influence is an essential cause of obesity in society); cf. Mello et al., *supra* note 18, at 2607 (“Over time, a greater understanding of the environmental influences on food choices should create the ideological conditions for further regulation. The law is slow to recognize that choices in the marketplace may not be totally free; the burden will be on researchers to demonstrate that some forms of communication may impede rather than facilitate informed choices.”).

100. NESTLE, *supra* note 92, at 26 (“The cost of food is low relative to labor and other factors that add value. Large portions attract customers . . . because the relative prices discourage the choice of smaller portions. [T]he larger portions of McDonald’s French fries are a better buy than the ‘small,’ [being] 40% cheaper per ounce.”); see also French, *supra* note 24, at 842S (“[R]esearch . . . suggests that people will consume a greater quantity of food or beverage from a ‘supersize’ serving portion compared with a small portion, especially if the price per ounce is less.”).

There is, in addition, the matter of what we view as food subsidies. These come in various forms.¹⁰¹ The federal government directly subsidizes certain farming interests in ways that allow them to keep their prices down and increase quantities consumed. The subsidy of corn-based sugar products is especially troubling in this regard, given the enormous quantities of sweetened beverages that Americans drink. We find it not at all surprising that there is a strong correlation between increased childhood obesity and increased consumption of sugar drinks by the young.¹⁰²

Food manufacturers are also aided by free access to unpatented new ideas and technologies that government-supported research produces at universities.¹⁰³ Again, this keeps food prices lower than they would otherwise be. On top of that, the price of food does not internalize the social costs associated with obesity. Some of these costs are externalized to society at large through the burdens that obesity puts on the health care system.

To be sure, the obese themselves bear many of the costs of obesity, and yet this inevitably means a burden on their immediate families. Besides, given the period between consumption of bad food and later health consequences of obesity, people are not threatened with the risks of their conduct in an immediate sense. This is unlike, say, skiers who are clearly aware of the immediate dangers they face. As with tobacco products, were the longer term costs of bad food to consumers vividly presented to them at the time of consumption, one would expect that less would be consumed. Although all of these factors might argue for raising bad food prices, in the absence of that, they provide yet another justification for imposing PBR on sellers of bad food.

101. NESTLE, *supra* note 92, at 19; *see also* MICHAEL POLLAN, *THE OMNIVORE'S DILEMMA: A NATURAL HISTORY OF FOUR MEALS* 108 (2006) ("Very simply, we subsidize high-fructose corn syrup in this country, but not carrots.").

102. NESTLE, *supra* note 92, at 200 ("[T]he relationship between soft drink consumption and body weight is so strong that researchers calculate that for *each* additional [daily] soda consumed, the risk of obesity increases 1.6 times.").

103. Though universities themselves patent much government-sponsored research, some patentable innovations nonetheless slip through and enter the public domain. Rebecca S. Eisenberg, *Public Research and Private Development: Patents and Technology Transfer in Government-Sponsored Research*, 82 VA. L. REV. 1663, 1666 (1996). Additionally, when patentable inventions are not at stake, the general advancement of knowledge and scientific disciplines create externalities benefiting industry. *E.g.*, David C. Mowery & Bhaven N. Sampat, *The Bayh-Dole Act of 1980 and University-Industry Technology Transfer: A Model for Other OECD Governments?*, 30 J. TECH. TRANSFER 115, 116 (2005).

Even apart from the role of food companies in enticing children to eat too much, food itself remains a necessary cause of obesity. To be sure, other factors beyond calorie consumption can play a role in outcomes for individuals—such as exercise and genes.¹⁰⁴ But without high caloric intake, people do not become obese.¹⁰⁵ We think this basis alone morally justifies requiring the food industry to address the problem of childhood obesity—just as one might justify requiring the auto industry to address the problem of highway accidents through PBR, even if alcohol and driver carelessness also play important roles. In a similar vein, we can imagine shifting the problem of work injuries toward a PBR scheme aimed at employers, instead of relying on the traditional regime that combines workers' compensation and occupational health and safety regulation. To those whose first reaction is that food is only part of the story,¹⁰⁶ we want to emphasize that we are not proposing that the food industry eliminate childhood obesity, only that it take responsibility for substantially reducing its incidence.

Whether it would be practical to apply PBR to food producers is another matter, and the topic to which we turn in Part IV. But, before setting out the main features of our proposal, we want to acknowledge two aspects of the obesity problem that make it especially challenging to attack it by applying PBR to the food industry.

104. Compare Salinsky, *supra* note 1, at 6 (“Declines in physical activity also appear complicit in increasing energy imbalance and obesity in children, but the magnitude of its role is unclear.”), with David M. Cutler et al., *Why Have Americans Become More Obese?*, 17 J. ECON. PERSP. 93, 104 (2003) (“[T]he most plausible explanation for the rise in obesity involves increased caloric intake, not reduced caloric expenditure.”).

105. See Salinsky, *supra* note 1, at 5 (“Total caloric intake has increased substantially over the past 25 years for preschool children and adolescents, and more modest increases have been observed for children aged 6–11.”).

106. See, e.g., *What Industry Can Do to Respond to Childhood Obesity*, FACT SHEET (Inst. of Med.), Sept. 2006, at 1 (“Market forces may be very influential in changing both consumer and industry behaviors. All relevant industry stakeholders—including food and beverage companies, quick serve and full serve restaurants, food retailers, recreation and leisure companies, entertainment companies, and the media—should share responsibility for supporting childhood obesity prevention goals.”).

The first relates to causation.¹⁰⁷ Each obese child obviously consumes many different foods from a variety of brands. Moreover, some foods are very healthy to eat. For these reasons, it makes no sense to ask each firm in the food industry to reduce youth consumption of its products as a way of achieving reduced youth obesity. And besides, with so many factors at play, it seems implausible for anyone to measure the reduced childhood obesity results in children at large from actions taken by individual food companies. Acknowledging this problem, we have developed a proposal that takes it into account by matching “bad” food sellers with specific groups of children.

The second complication is the time lag between cause and effect. Strategies that firms try out for reducing obesity could take a rather long time to show results. Moreover, a firm may well combine several different tactics to combat obesity, and then find it difficult for some time to know which measures are having the most effect.¹⁰⁸ Indeed, we concede that the general question of expertise in reducing obesity rates is a difficult one

Were PBR applied to tobacco companies, for example, we are confident that, just as cigarette makers know how to entice people to smoke their brands, they could figure out effective ways to reduce prevalence rates of their specific brands. Although that same point might be made about food companies, this is not what food companies will need to do. Indeed, as Part IV explains, because of the way our proposal connects food companies with the group of children for whom they are responsible, most of any national reduction in the consumption of their bad food product will do those firms little good in meeting their regulatory target, even if, overall, this helps produce a socially desirable result.

As for figuring out how to reduce obesity in a specific pool of children, our judgment is that, on balance, large food companies (and

107. See Koplan, *supra* note 6, at xi (“[L]essons learned from other public health concerns such as the prevention of youth tobacco use and alcohol consumption can provide insights and directions for further efforts. However, the solutions to tobacco and alcohol consumption among our young people cannot be fully replicated due to the complexity of obesity and the ubiquity of food, sedentary habits, and familiar routines in our culture that contribute to the problem.”).

108. INST. OF MED., PREVENTING CHILDHOOD OBESITY: HEALTH IN THE BALANCE 244 (2005) (“Evaluation of the literature on [childhood obesity] interventions is complicated because of their variety and the multicomponent nature of their designs, making comparisons of results difficult.”).

those they can call on for assistance) are indeed well situated to make a difference. Still, it is probably appropriate to allow a grace period before insisting on any obesity-reduction gains, and it may also be very difficult, at least at the outset, to specify with great confidence the obesity-reduction gains that the food industry has the capacity to attain. We concede that a grace period risks both genuine foot-dragging by the regulated parties, as well as public impatience and misperception that there is foot-dragging when there might not be. In the details of our proposal, therefore, we have tried to set the length of the grace period, the size of the obesity reduction required, and the structure of the penalties for failure to meet the performance goals in ways that sensibly balance this related set of uncertainties.

III. WHY PERFORMANCE-BASED REGULATION INSTEAD OF TORT LAW

Some enterprising plaintiffs' lawyers have sued food companies for damages on behalf of obese clients, floating what appear to be no more than trial balloons.¹⁰⁹ Under current tort doctrine, because these lawsuits do not claim that the food the plaintiffs ate was adulterated (i.e., other than what was intended), strict liability does not apply, so the claimants have the obligation to prove that the defendants did something wrong.

Theoretically, a product "design" argument could be advanced. For example, plaintiffs might fault defendants for having "too much" fat in the burgers or fries or serving "too large" portions. But these are not the sorts of claims that are likely to succeed in a product liability case, regardless of what the public health community thinks about these matters. So long as there is adequate disclosure, tort law generally relies on consumers (or parents of child consumers) to

109. See Benforado et al., *supra* note 1, at 1723 n.271 ("[T]here have been '10 prominent cases against the food industry so far, five of which had some success. McDonald's paid \$12 million to settle a complaint that it failed to disclose beef fat in its French fries; Kraft agreed to stop using trans fats in Oreos; the makers of Pirate's Booty, a puffy cheese snack, paid \$4 million to settle a claim over understated fat grams.'") (quoting Kate Zernike, *Lawyers Shift Focus from Big Tobacco to Big Food*, N.Y. TIMES, Apr. 9, 2004, at A15). See generally Richard Daynard, *Legal Approaches to the Obesity Epidemic*, 13 CONSUMER POL'Y REV. 154 (2003) ("Substantial bases exist for litigation [against the food industry], which could change public attitudes toward the industry and induce food companies to improve their behavior."); Michelle Mello et al., *The McLawsuit: the Fast-Food Industry and Legal Accountability for Obesity*, 22 HEALTH AFF. 2 (2003) ("Fast-food litigation, no matter what its ultimate outcome in the courts, could change public attitudes and industry regulation."); Mello et al., *supra* note 18 ("The law is now firmly established as a powerful instrument of public health.").

decide what to buy. For example, a lawsuit brought by an individual hurt in a rollover accident against an automaker under the theory that the convertible it sold should have had a hard top does not hold much promise. Neither does one brought against a beer company that claims that the regular beer a person drank should have had even less alcohol, and so on.

Hence, the most likely route for these cases to take under current law would be to base claims on inadequate disclosures, e.g., the defendant should have, but did not, disclose the fat content of the product, or the calorie content of the meal, and so on. These are generally called “warning defect” cases. Plausibly, plaintiffs could also attempt some claims based on negligent marketing, as was done in handgun litigation.¹¹⁰

Notice that these sorts of lawsuits depend on convincing the jury that the defendant should have engaged in some specific behavior that would have made a difference in terms of the victim’s obesity. That is why we have described this sort of claim as analogous to command-and-control regulation. And, although juries might well decide that the defendant’s product was “defective” in one way or another because of some warning jurors believe the defendant should have given, we are somewhat skeptical about whether juries will make decisions that sensibly further the public health agenda.

In any event, a further enormous problem confronts these sort cases—the causation requirement of tort law, which has two ramifications here. First, the jury must find that the plaintiff would have acted in response to the warning in a way different from how the plaintiff actually behaved. For example, the jury might have to be convinced that the plaintiff would have eaten less of the defendant’s product, or eaten it less often, or perhaps not eaten it at all. Although many jurisdictions follow the “heeding presumption” with respect to warnings regarding the proper safe handling of products (e.g., to engage a guard), we believe this presumption would not apply, and would not sensibly apply, to the sort of disclosures we have mentioned here. Rather, we believe that the question of whether a particular plaintiff would have responded to the warning by eating less of the product or no longer eating it at all can only sensibly be an individual factual inquiry about that plaintiff.

110. Stephen D. Sugarman, *Comparing Tobacco and Gun Litigation*, in *SUING THE GUN INDUSTRY: A BATTLE AT THE CROSSROADS OF GUN CONTROL AND MASS TORTS*, *supra* note 40, at 196, 221.

Second, even if successful on the first causation prong, the plaintiff will also have to show that his or her change in behavior with respect to this product would have made a difference for his or her obesity in a meaningful way. This, however, raises the problem of “multiple sources.” Given that nearly everyone eats something of a varied diet of foods provided by a wide variety of companies, it is going to be very difficult to show that, say, cutting back on Big Macs would have much mattered, and even more difficult to prove that the person would not then have been obese. To be sure, there may be some eccentric teens who eat virtually only fast food from a single chain, but any success they might have in getting past the “multiple sources” problem is not going to do much for the vast majority of obese children.

Finally, although some obese teens have developed diabetes in conjunction with their obesity, many others are “only” seriously at risk of subsequent ill health. For those victims, determining the tort law damages would be difficult; for plaintiffs with similar problems (with respect to asbestos, for example), the record of the legal system in reaching sensible solutions is not enviable.¹¹¹

Although current tort law governing the issue is effectively fault-based, imagine for a moment that strict liability in tort applied. In such a regime, the plaintiff would not have to show what the defendant should have done. That makes it more like PBR, as we discussed earlier. Yet, individual causation problems remain. Victims would still have to show that the defendant’s product(s) caused their obesity. As a theoretical matter, by threatening food companies with strict liability for those who become obese from eating their products, this would give firms an incentive to take actions that would reduce obesity rates. And, as with PBR, it would be up to firms to decide how to do that.

111. Professor Ausness describes the difficulties of this type of litigation:

Plaintiffs will find that causation requirements are particularly difficult to overcome. Duty and proximate cause may also be troublesome. In addition, defendants will try to characterize the bad eating habits of obese consumers as product misuse. Suppliers of raw materials and ingredients may be able to transfer liability to the seller of the finished product by relying on the doctrine of shifting responsibility. Furthermore, sellers of packaged foods, if properly labeled, are likely to escape liability altogether by invoking the concept of federal preemption. Restaurants and fast-food vendors may also be able to raise federal preemption as a defense. Finally, sellers of food products will seek to reduce their liability by raising conduct-based defenses such as contributory negligence, comparative fault, and assumption of risk.

Richard C. Ausness, *Tell Me What You Eat, and I Will Tell You Whom to Sue: Big Problems Ahead for “Big Food”?*, 39 GA. L. REV. 839, 843–44 (2005).

Yet, firms will face something of a problem if most of their customers are not obese. Think about the analogy to beer companies. If they were held strictly liable for the consequences of their customers getting drunk, they could, of course, eliminate alcohol from their product. But that would be extremely unpopular with the majority of their customers who do not abuse alcohol. Of course, the beer companies might devise some way of getting individual abusers not to consume too much beer, and perhaps habitual beer drinkers have a brand loyalty that nicely connects each drinker with one beer company (although, contrary to this picture, we suspect that many such abusers also drink other sorts of alcohol). For this reason alone, we find the case-by-case individual lawsuit approach an unpromising way to deal with childhood obesity, even if strict liability was the law of the land (which it is not).

Some lawyers might try to avoid some of these problems by joining several food companies as defendants, and perhaps joining several obese children as plaintiffs. They might then seek to assign “market share” liability to the defendants, making each responsible for a portion of the harm. This was done, for example, in some pharmaceutical cases in which there were multiple sources of a harmful drug and victims could not reasonably know which firm provided the actual drug that harmed them.¹¹² Although applying this approach to obesity would be a legal stretch, suppose for now the courts were willing to do so. This begins to make the tort strategy look much more like the PBR approach to obesity. Yet, there remains one very large difference.

With the tort approach, the actual social intervention would be to impose market share damages on the defendants. Reduced obesity would only come if they responded to such liability by taking actions intended to preclude future lawsuits by those who are not yet obese. By contrast, PBR withholds penalties, seeking to push firms to meet specific outcome goals, which, if they are successful, allows them to avoid the rough equivalent of tort damages. PBR, therefore, more directly aims to solve the actual public health problem (instead of compensating the victims and hoping for socially desirable indirect responses).

112. See Anita Bernstein, Hymowitz v. Eli Lilly and Co.: *Markets of Mothers*, in TORTS STORIES 151, 157–70 (Robert L. Rabin & Stephen D. Sugarman eds., 2003) (detailing the hurdles faced by plaintiffs in the diethylstilbestrol (DES) suits against pharmaceutical companies).

Moreover, we have designed a better mechanism to achieve that end. With market share tort liability, firms might well have no good way of lowering their damages in the future, short of withdrawing from the business. This goes back to the problem of the usual inability of determining whether getting Susie to drink fewer Cokes made a difference for her. Our proposal confronts this problem by linking bad food sellers to group of students organized by schools. Thus, under our regime, firms have real world targets, whose progress toward lowered obesity rates as a group is much more readily determined, and who form a coherent body of individuals toward whom a firm can direct its healthier outcomes strategies.¹¹³

IV. THE PROPOSAL

A. *The General Goal: Reducing Childhood Obesity Prevalence by About 50 Percent.*

1. *Defining the Desired Outcome—Why Obesity?* Our PBR scheme targets the condition of childhood obesity. If the cost and difficulty of measuring progress were not relevant considerations, one might be tempted instead to focus on the broader goal of healthy, happy children, with weight (or one's body mass index, which is the typical measure of obesity) being only an incidental consideration. Yet, given that the health problems and social hardships associated

113. For other pessimistic appraisals of the prospects of tort litigation, see Brooke Courtney, *Is Obesity Really the Next Tobacco? Lessons Learned from Tobacco for Obesity Litigation*, 15 ANNALS HEALTH L. 61, 64 (2006) (claiming that "litigation alone is currently unlikely to impact the obesity epidemic in a substantial way"). Indeed, "Sherman Joyce, President of the American Tort Reform Association, argues that legislation and regulation are more appropriate than using the courts as a means of addressing the problem of obesity." Alyse Meislik, Note, *Weighing in on the Scales of Justice: The Obesity Epidemic and Litigation Against the Food Industry*, 46 ARIZ. L. REV. 781, 788 (2004). "Normal insurance mechanisms, rather than the products liability litigation system, are preferable institutions to address the inevitable losses from widely known inherent product hazards." David G. Owen, *Inherent Product Hazards*, 93 KY. L.J. 377, 422 (2005). "[C]ourts should simply step aside, and legislatures should step up to limit the most dubious types of inherent product hazard litigation . . ." *Id.*

For an "explor[ation of] the causes of action that may be brought against the fast-food industry and the individual potential for success of each," see Romero, *supra* note 28, at 243. For one failed effort, see *Pelman v. McDonald's Corp.*, 237 F. Supp. 2d 512, 543 (S.D.N.Y. 2003) (dismissing all of the plaintiffs' claims against McDonald's, including claims of deceptive sales practices, sale of addictive products, and negligence). See generally Norah Leary Jones, Note, *The Illinois Commonsense Consumption Act: End of the Road for Fast Food Litigation in Illinois?*, 36 LOY. U. CHI. L.J. 983, 1021 (2005) (discussing generally the legislative response to obesity litigation, as well as the Illinois Commonsense Consumption Act, in particular).

with childhood obesity are well documented,¹¹⁴ that obesity is reasonably straightforward to assess,¹¹⁵ and that obesity has been framed as a distinct public health problem,¹¹⁶ we choose to focus on that particular affliction. Moreover, it seems morally more compelling to hold food companies responsible for reducing childhood obesity than, say, for improving children's well-being more generally. As a consequence, however, one needs to be attentive to the risk that, in acting to meet the regulatory goal, the regulated firms might engage in socially perverse actions that bring about harms of other sorts, thereby offsetting the intended benefit to children.

2. *Determining the Scope of the Regulation—Why Children, Not Adults?* Our regulation targets the rate of obesity in children, rather than in the general population. There are a number of justifications for this choice. First, children are a relatively powerless group. Much of their diet is outside their control, dictated by the offerings of school cafeterias, the contents of vending machines, and the constraints of parents' hectic schedules and limited budgets.¹¹⁷ Children are also highly suggestible, and thus particularly vulnerable to the food industry's aggressive marketing strategies.¹¹⁸ At the same time, these

114. See, e.g., NESTLE, *supra* note 92, at 175 ("Because [childhood] obesity tends to persist into adulthood, this condition may well predispose overweight and obese children to cardiovascular and other chronic disease risks later in life."); Salinsky, *supra* note 1, at 4 ("The consequences of childhood obesity are severe, influencing children's mental, physical, and social well-being and resulting in significant health care expenditures.")

115. Body mass index is the standard measurement used to determine obesity. It is imperfect as applied to adults, though, because it does not take age or muscle mass into account. See *supra* note 1.

116. See *supra* note 2.

117. See NESTLE, *supra* note 92, at 176 ("American children eat one out of every three meals outside the home, where foods are demonstrably higher in calories, fat, saturated fat, and salt as well as lower in more desirable nutrients.")

118. Justice Thomas noted this fact:

Although the growth of obesity over the last few decades has had many causes, a significant factor has been the increased availability of large quantities of high-calorie, high-fat foods. . . . Such foods, of course, have been aggressively marketed and promoted by fast food companies. . . . Moreover, there is considerable evidence that they have been successful in changing children's eating behavior.

Lorillard Tobacco Co. v. Reilly, 533 U.S. 525, 587–88 (2001) (Thomas, J., concurring); see also NESTLE, *supra* note 92, at 202 ("Moving up in age targets, PepsiCo states explicitly that its strategy is to expand soft drink consumption among children aged 6 to 11."); Mello et al., *supra* note 18, at 2607 ("[Antiobesity] initiatives are most likely to gain acceptance if they focus on children and adolescents. Young people are especially vulnerable to advertising, and there is greater political tolerance for legal interventions on their behalf—this is a clear lesson from the history of tobacco control."); Salinsky, *supra* note 1, at 9 ("Regulatory bodies and the courts

qualities make children prime candidates for reconditioning. Moreover, it is much easier for the food industry to blame adults for their own obesity than it is to blame children (even though so many obese adults were obese or overweight as children). In any case, reducing childhood obesity may very likely lead to longer-term reductions in obesity rates in adults. Finally, it is critical to appreciate that, over the course of a regulatory period, individuals will pass through the childhood stage. Therefore, measured rates of childhood obesity could well drop, not so much from getting already obese children to become thinner, but from prevention measures that sharply reduce the rate at which “incoming” children become obese.¹¹⁹ And given the not-altogether-happy experience with the “diet” industry, prevention may well be the most promising avenue to take.¹²⁰

3. *Setting the Level of the Target—Why a 50 Percent Reduction?*

The percentage of American children who are obese has tripled in the last thirty years, with the rate of obesity currently around 16 percent.¹²¹ We have decided that the goal of the regulation should be to bring the obesity rate closer to its 1970s level. More specifically, we seek to achieve a national childhood obesity rate of 8 percent or less by the end of the first regulatory cycle (and a lower rate in any subsequent cycle).¹²² As we will explain in more detail,¹²³ this means reducing the number of obese schoolchildren by approximately 50 percent, from about 10 million to 5 million.

There are several reasons to demand this level rather than some lower level, or the elimination of childhood obesity altogether. First, as a general matter the level demanded by the PBR scheme must be

have recognized the special status and cognitive limitations of children in determining the lawfulness of child-oriented advertising practices and the regulation of such practices. . . . Although children begin to differentiate ads from entertainment content as early as three years of age, children generally do not develop the ability to attribute persuasive intent to advertising until the age of seven or eight.” (citations omitted).

119. See *infra* Part VI.C.

120. See John Catford & Ian Caterson, *Snowballing Obesity: Australians Will Get Run Over if They Just Sit There*, 179 *MED. J. AUSTL.* 577, 578–79 (2003) (contrasting the growth of the diet industry with the rapid increase in obesity and noting the limited access to diet programs for disadvantaged groups).

121. Benforado et al., *supra* note 1, at 1649.

122. The rest of the Article assumes that we have chosen a target obesity rate of 8 percent. If that were altered, then other figures we present would also change.

123. See *supra* Part IV.D.

substantial but not overly ambitious. Second, there are genetic factors that cause some individuals to be obese even in the absence of a lifestyle of overconsumption and underexertion; this goes to the issue of capacity that we discussed within the context of NCLB.¹²⁴ Third, the ubiquity of things like fast-food chains, junk food advertising, and enormous portion size¹²⁵ is a relatively recent phenomenon.¹²⁶ Therefore, the burden our regulation places on the food industry is rationally related to the direct effects that the industry has had on American youth over the last thirty years. Finally, we are talking about a first-round target only. Shortly, we will offer some theoretically based analysis for selecting the performance target.¹²⁷

But first we turn to how firms are selected as targets of the regulation, and then we discuss how individual children are made the responsibility of individual firms.

B. Who Is Regulated?—Larger Firms Selling Bad Food That Is Consumed by (or Marketed to) Children

1. *Why Only Food Sellers?* First, note that we limit our PBR scheme to a subset of the *food* industry.¹²⁸ We concede that there are arguments in favor of including different industries in the regulation. For instance, television and video games may enable the sedentary lifestyle many children lead.¹²⁹ This suggests that PBR could hold

124. See *supra* notes 57–58 and accompanying text.

125. See French, *supra* note 24, at 841S (noting that “[i]t is well documented that portion sizes for foods purchased at fast food places and restaurants have increased sharply over the past two decades” and contrasting old and modern “single-serving” sizes of Coca-Cola bottles, candy bars, potato chips, bagels, and muffins).

126. See NESTLE, *supra* note 92, at 21 (“In recent years, [food companies] have embraced a new strategy: increasing the sizes of food portions. Advertising, new products, and larger portions all contribute to a food environment that promotes eating more, not less.”); Shin-Yi Chou et al., *An Economic Analysis of Adult Obesity: Results from the Behavioral Risk Factor Surveillance System*, 23 J. HEALTH ECON. 565, 580–81 (2004) (finding that the increase in the number of restaurants per capita has contributed to rising obesity).

127. See *infra* Part IV.H.

128. Throughout this Article, “food industry” refers to the food and beverage industry.

129. Professor Nestle notes that, although children are watching less television today, this drop in viewing time is more than made up for with internet surfing and computer games. NESTLE, *supra* note 92, at 180–81; see also Darius Lakdawalla & Tomas Philipson, *Technological Change and the Growth of Obesity: A Theoretical and Empirical Examination* 34 (Nat’l Bureau of Econ. Research, Working Paper No. 8946, 2002), available at <http://milkeninstitute.org/pdf/obesity.pdf> (“Leisure issues are particularly important for understanding the growth in child obesity that may be due to technological change, such as computers and television . . .”).

television networks and video game manufacturers partly responsible for reducing childhood obesity.¹³⁰ Nonetheless, we believe that the regulatory scheme will be more manageable and cohesive if limited to the food industry, at least for the first cycle of regulation.

2. *Defining “Bad” Food.* Second, our proposal does not apply to providers of all food products. Rather, within the food industry, it determines the set of foods whose providers are subject to regulation by a two-part test comprised of a nutrition prong and a marketing prong, both of which must be satisfied.

a. *The Nutrition Prong.* The nutrition prong is applied first and its initial goal is to separate obesity-promoting foods from other foods, with only providers of the former being subject to PBR. We propose that a retail food product satisfies the nutrition prong if more than 30 percent of its calories come from fat *or* more than 40 percent of its calories come from sugar.

The standards enunciated in the Department of Health and Human Services and Department of Agriculture’s Dietary Guidelines for Americans 2005 form the basis for the fat and sugar threshold levels making up the nutritional prong.¹³¹ Other public health advocates have specified nutritional standards that differ slightly but fall in the same general range. For example, the Center for Science in the Public Interest (CSPI) defines “foods of poor nutritional quality” as those meeting one or more criteria of badness, such as having more than 35 percent of calories from fat, more than 35 percent added sugar by weight, more than 10 percent calories from saturated and trans fat, or more than certain sodium thresholds.¹³² Foods, however, meeting one of more of these criteria may be redeemed if they contain enough fruit, whole grains, or vitamins.¹³³ CSPI’s definition for “beverages of poor nutritional quality” is essentially a list of beverage types, such as soft drinks, sports drinks, sweetened iced teas,

130. See generally NESTLE, *supra* note 92, at 8 (“[T]he number of hours spent watching television is one of the best predictors of [becoming] overweight . . .”).

131. See U.S. DEP’T OF HEALTH & HUMAN SERVS. & U.S. DEP’T OF AGRIC., DIETARY GUIDELINES FOR AMERICANS viii (2005), available at <http://www.health.gov/dietaryguidelines/dga2005/document/pdf/DGA2005.pdf> (“Keep total fat intake . . . between 25 to 35 percent of calories for children and adolescents 4 to 18 years of age . . .”).

132. Center for Science in the Public Interest, *Defining Foods of Poor Nutritional Quality*, http://www.cspinet.org/new/pdf/foods_of_poor_nutritional.pdf (last visited Mar. 28, 2007).

133. *Id.*

fruit-based drinks that contain added sweeteners and less than 50 percent real fruit juice, caffeinated drinks, and high-fat milk.¹³⁴

The thresholds we propose (30 percent for fat, 40 percent for sugar) are very much in the same ballpark as CSPI's, but have several advantages for our purposes. First, our formula is simpler. It does not account for sodium and other nutrients because our analysis targets the key nutritional components that promote obesity. Second, our formula works for food and beverages at the same time, because it is based on *percent of calories* from sugar rather than *added weight*.¹³⁵ Third, because we want to assess responsibility based on how bad a product is, we need a measure of relative badness among the covered products and not simply a measure that provides a binary test like CSPI's list of included and excluded beverages.

No matter what nutritional standard one chooses, such standards tend to evolve and become finely tuned as we hone our understanding of the body's relationship with food. Periodically, old nutritional standards may even get turned on their head. In any regulatory scheme, however, regulators must make decisions using the best information available.¹³⁶ If the thresholds of the nutritional prong become outdated due to scientific advances, regulators can update the thresholds for a subsequent regulatory cycle.

b. The Marketing Prong. The marketing prong comes next. A firm whose brand name appears on a product satisfying the nutrition prong gets included in the regulatory structure if, in addition, the product either enjoys significant consumption by children *or* is significantly marketed to children. Thus, our regime completely excludes unhealthy products not marketed to children or much consumed by children.

The concept of "marketing to children" includes marketing that is intended to reach parents to encourage child consumption or family

134. *Id.*

135. To understand the distinction, notice that, although sugar provides nearly all the calories of soda, it makes up less than 10 percent of the weight, with water making up the rest. Therefore, under CSPI's "added weight" threshold for sugar content (which they wisely apply only to foods rather than beverages), soda would not qualify as being of poor nutritional quality.

136. See Koplan, *supra* note 6, at xii ("As the [IOM report, *Preventing Childhood Obesity: Health in the Balance*,] acknowledged, we must draw from the best available evidence rather than waiting for the best possible evidence to mount an effective and sustained response.").

consumption.¹³⁷ Examples include Jif's "Choosy moms choose Jif"¹³⁸ and KFC's "Bring back dinner,"¹³⁹ respectively. Other major avenues for satisfying the marketing prong include advertisements on youth-oriented television shows, commercials that show children consuming the product, product placement in movies aimed at youths, inclusion in school vending machines, and mall food-court vendors.¹⁴⁰

Firms might argue that it is unfair to include their product simply because they significantly market to children if, in fact, there currently is no proof that children significantly consume their products. We feel that it is fair, however, to use the marketing measurement for several reasons. First, most of the time it will be a very good proxy for child consumption and firms that significantly market toward children indeed enjoy significant consumption by children. Although this might not always be the case, the cost of gathering perfect information outweighs the benefits of eliminating imperfections.¹⁴¹ The key point is that, under the second prong, a regulator can include a product in the regulatory scheme without having to specifically measure its actual consumption by children.

Beyond that, we justify using the alternative test under the marketing prong on the ground that firms that significantly promote their products to children are doing what they can to ensure that children significantly consume the product, if not now, then in the very near future. The industry would not spend billions of dollars on advertising if this were not so. Thus, it is morally and logically sound

137. See NESTLE, *supra* note 92, at 176 ("Marketers have long known that children make attractive customers, but attention to this group (and to younger and younger members within it) has increased sharply in recent years."); Benforado et al., *supra* note 1, at 1700 ("The average child sees 10,000 television food advertisements each year, with 95% for fast food, soft drinks, candy, and sugared cereal."); Salinsky, *supra* note 1, at 7 ("One study found that children observed in a grocery store with their parents successfully instigated purchases 45 percent of the time.").

138. JIF, <http://www.jif.com/home.asp> (last visited Mar. 28, 2007).

139. Kentucky Fried Chicken, <http://www.bringbackdinner.com> (last visited Mar. 28, 2007).

140. For an analysis of the "doubtful future for an absolute ban on [fast-food] advertisements targeting children," see Munger, *supra* note 23, at 458. Munger notes that "although the similarities of the advertising methods are uncanny, public sentiments regarding fast food advertising targeting children has not reached the same level of intensity and vigilance as that directed toward tobacco advertising." *Id.* at 477. Furthermore, "no one has shown that foods have physically addictive properties, much less that food companies manipulate their addictive content to encourage dependence." Mello et al., *supra* note 18, at 2602.

141. Information about advertising is likely to be more reliable and cheaper to collect than information about who is consuming how much of a given product.

to allow both current consumption by children and marketing to children to trigger a product's inclusion.

3. *Exempt Food Sellers.* Our scheme contains a small-business exemption. (In deciding whether one qualifies as a small business, all of the outlets of national chains would be counted together, regardless of whether they are owned operations or franchises.) The pragmatic justifications for the small business exemption are that these firms are less able to afford participation in the scheme and that administering the regulation's application to small firms would be difficult and costly. A perhaps more principled justification is that small businesses are less likely to have engaged in large-scale, aggressive marketing toward children in the first place.

Schools are also exempt. First of all, there are already other regulations governing schools, school vending machines, and the nutritional content of school lunches.¹⁴² Second, this exemption might also be viewed as a special case of the small-business exemption. And third, schools will have a special role to play in our proposal in any case, as Section D discusses.

C. *Allocating Responsibility for "Bad" Food*

1. *Allocating Products to Firms.* The focus of our proposal is to assign responsibility to the party whose brand name appears on an unhealthy product, and if there is no brand name, then to the retailer of the product. Those parties generally have the most control over both the composition of the food and the nature of its marketing.

Here is how this two-prong "bad" food test would apply to some familiar situations in the retail store. For a supermarket (like Safeway), a hypermarket (like Costco) or a minimarket (like 7-Eleven), the two-prong "bad" food test would work in the following way. For covered retail products on the shelf, like a bag of Frito-Lay potato chips, Frito-Lay (actually its parent owner, PepsiCo) would have to take responsibility. For a covered house-branded product like Safeway Select Cola, Safeway would have to take responsibility. And if Costco, for example, sells chocolate chip cookies with no brand attached, Costco would have to take responsibility for them. Moreover, if retailers sell covered products made by branded exempt

142. INST. OF MED., PROGRESS IN PREVENTING CHILDHOOD OBESITY: HOW DO WE MEASURE UP? 239-44 (2006).

small businesses, then those products would be treated like unbranded and house-branded products—they would be the responsibility of the retailer.

Turning to restaurants, McDonald's, for example, would take responsibility for the food it sells, like burgers and fries. Yet, responsibility for the branded beverages it sells would attach to the manufacturer of that beverage, e.g., Coca-Cola, at least when the plan also covers the branded provider. After all, sweetened beverages are generally requested by customers, and marketed by restaurants, by their brand name. Moreover, whereas McDonald's controls the composition of the fries and burgers, Coke controls the content of the beverages.

Although we do not have precise data, we envision that, although the small business exemption will exclude a large number of firms, together they will only account for a small share of the market in “bad” food. As a rough rule of thumb, small businesses may comprise 80 percent of food makers/sellers but only 20 percent of the industry's sales. Moreover, because large retailers would assume the responsibility for some of the products of these sellers, our proposal would exclude even less than 20 percent of all “bad” food if the preceding estimate is correct.

2. *Allocating Shares of the Regulatory Burden to Covered Firms.* So far, we have covered the relatively easy part, even though we admit that the eventual precise details of our plan might have to be somewhat different from those we have set out so far. The harder problem is deciding how to allocate, measure, and enforce obesity-reduction targets of those nonexempt firms whose products our regime has defined as unhealthy and are substantially consumed by (or marketed to) children.

a. *Share of Bad Calories.* We have concluded that a firm's revenue from products that satisfy the two-prong test should not form the basis of its share of the burden, for revenue is not intrinsically tied to the obesity problem. Instead, under our proposal each included firm will get a share of the responsibility that reflects both the firm's *caloric* market share and the “badness” of the product. First, for a given food or beverage product, we compute the excess fat and excess sugar and combine these two figures into a total “excess badness” multiplier. The product's “calories sold” is the units sold times the calories per unit. We then multiply the calories sold by the excess

badness multiplier. We repeat this for all the products of a given firm, the sum of which gives the total caloric badness produced by that firm. This is the numerator in the fraction we seek, because we want to find that firm's share of the total caloric badness produced by all firms. Repeating this process for each firm and summing the results gives the denominator in the desired fraction.

Here is the mathematical derivation of the formula we propose for sharing responsibility among nonexempt firms. Suppose that a firm X_i sells a product y .

Let $p_f(y)$ be the fraction of y 's calories that comes from fat.

Let $p_f'(y) = p_f(y) - \text{fat threshold} = p_f(y) - 0.3$.

This is the excess badness from fat of y .

Let $p_s(y)$ be the fraction of y 's calories that comes from sugar.

Let $p_s'(y) = p_s(y) - \text{sugar threshold} = p_s(y) - 0.4$.

This is the excess badness from sugar of y .

Let $p'(y) = \max\{0, p_f'(y)\} + \max\{0, p_s'(y)\}$.

This is the badness factor of y .

Let $Q(y)$ be the total calories of all the product y that firm X_i sells.

For example, if each y has 200 calories, and firm X_i sells a total of 3 units of y , then $Q(y) = 600$.

Firm X_i acquires obesity responsibility for selling y , and we keep track of the amount of responsibility as $Q(y)$ multiplied by $p'(y)$. Literally, the badness of the product and the amount sold are factors. We find firm X_i 's total raw score by summing over all included products of X_i .

Then, we get X_i 's *share* of the obesity problem by dividing its raw score by the sum of the raw scores of all other included firms. Thus, the formula for a firm's share S of the obesity problem is given below.

$$S(X_i) = \frac{\sum_{y \in X_i} Q(y) p'(y)}{\sum_j \sum_{y \in X_j} Q(y) p'(y)}$$

Although implementing this formula requires a significant amount of data, firms likely keep track of such data already. In that case, the regulatory body could fairly easily gather the reliable information needed to operate this part of the scheme.

3. *Alternatives.* One drawback of this formula, however, is that it does not distinguish between moderate and heavy consumption of the product by children. It is true that for any firm to be included in the scheme, its product must be significantly marketed to, or significantly consumed by, children. Once a firm's product passes this test, however, our formula does not capture the precise share of the total units sold that are consumed by children versus adults.

We could alter the formula to account for this, but doing so would have to sacrifice one very appealing aspect of the current design. At this point, the formula requires gathering information only on nutritional content and total sales. These are reasonably hard numbers that require no estimates, surveys, or projections. Determining how much of a product is ending up in whose hands introduces an element of unreliability and, with it, an opportunity for manipulation and shortchanging of responsibility.¹⁴³ To be sure, if this additional refinement in the formula were desired, a special body could be put in charge of gathering data to help determine how much of each covered product is actually consumed by children. That, of course, involves additional expense. Note also that this alternative approach would render meaningless the inclusion of products in the regime merely because they are significantly marketed to children.

We put this possible further elaboration aside for now, noting only that this whole matter is only a real problem to the extent that some covered products are significantly consumed either a lot less or a lot more by children than adults as compared with the typical covered product.

To roughly illustrate how our proposal would work, we provide some examples here, the data for which strike us as approximately correct. Table 1 below shows the extent to which these key "bad" food items exceed the proposed thresholds of 30 percent fat and 40 percent sugar and also shows the average American annual caloric intake of each of these products. In addition, the table gives a "badness index" for these foods, assuming that these are the only

143. For example, in the Philip Morris case, the government defined youth smoking in terms of daily smoking. Plaintiff's Proposed Final Judgment and Order at 11, *United States v. Philip Morris USA, Inc.*, 449 F. Supp. 2d 1 (D.D.C. 2006) (No. 99-2496). The intervenors' brief objects to this, stating that youth smoking should be based on a thirty-day measure. Post-Trial Brief of Plaintiff-Intervenors at 72-75, *United States v. Philip Morris USA, Inc.*, 449 F. Supp. 2d 1 (D.D.C. 2006) (No. 99-2496). Naturally, how one frames the survey questions affects the results. This also shows that even the "good guys" often end up inadvertently making subjective choices that advantage the "bad guys."

foods covered by the scheme (a considerable simplification). The badness index should be thought of as the percent of responsibility for the obesity problem that each food category shoulders.

Table 1. Percent Responsibility for Obesity, by Food Category

Column A = Percent of calories from fat (F) or sugar (S).

Column B = Percent of calories that exceed the nutritional thresholds of 30 percent fat or 40 percent sugar.

Column C = Annual per capita caloric intake for each food category.

Column D = Annual per capita excess calories consumed (Column B multiplied by Column C).

Column E = Badness index, or percent of responsibility for obesity problem (Column D entry divided by Total for Column D).

	A	B	C	D	E
Candy (non-chocolate)	60(S)	20	23,369	4,674	5
Chips	62(F)	32	39,680	12,698	14
Ice Cream	56(F)	26	19,200	4,992	5
	36(S)	0			
Chocolate	55(F)	25	31,416	7,854	9
	31(S)	0			
Pizza	37(F)	7	29,007	2,030	2
Hamburger	47(F)	17	76,800	13,056	14
Fried Chicken	46(F)	16	4,004	641	1
Cheese	74(F)	44	18,240	8,026	9
Soft Drinks	97(S)	57	57,540	32,798	36
French Fries	48(F)	18	23,177	4,172	5
Total				90,941	100%

Table 1 shows that more than one-third of the calories beyond the “bad” food threshold comes from sweetened soft drinks—both because so many are consumed and because they are so high in sugar.

Table 2, below, illustrates some market shares of well-known firms and the corresponding share of the obesity problem that our proposal would assign to them, again assuming for these purposes that the only covered products would be the ten illustrated here.

Table 2. *Market Share and Obesity Reduction Share for Select Firms*

Firm	Market Share	Obesity Reduction Share
Coca-Cola	43% soft drinks	15.5
Dreyer's	23% ice cream	1.3
Burger King	18% burgers	2.6

These percentages are larger than those our program would actually assign because many other “bad” products would also be reached by the regulation. Yet, the table gives some sense of the relative responsibilities that would go to well-known national firms,¹⁴⁴ and makes clear how important is the role of soft drinks in the overall picture.

D. Getting Credit for What?

Suppose that the formula just described determines that a particular firm, Acme, is responsible for 5 percent of America's childhood obesity problem. What does our proposal do now? We think it would be unworkable to suggest, for example, that Acme be held responsible for making each obese child in America 5 percent less obese, with other firms joining in according to their respective shares. Even if partially successful results occurred, the regulator would have no way to know whether Acme had done its duty, while other firms neglected theirs, or vice versa.

Instead, we propose that Acme be responsible for 5 percent of the total number of fewer children. More precisely, our program's goal is for the nation to wind up with (approximately) 5 million instead of 10 million obese schoolchildren. And so, if Acme were responsible for 5 percent of the goal, it would be responsible for 250,000 of that 5 million total reduction.

Under this approach, achieving the PBR goal would be a yes-or-no matter at the individual child level. Assuming a child's body mass index would determine whether that child is obese or not, then at the

144. “For example, if a company has an 80% market share of the product in question, this does not necessarily mean that it bears 80% of the responsibility for injury to a specific individual, but it is much more likely that it is 80% responsible for injury to the population as a whole.” Alderman & Daynard, *supra* note 10, at 86 (suggesting a market share approach in the event that states decide to bring suit against the food industry to recoup Medicaid expenses incurred on account of obesity).

time of measurement each year every child in Acme's pool would be counted as either below the obesity threshold or not. And of all of those children in Acme's pool, eventually there would have to be 250,000 fewer obese children for Acme to achieve compliance.

We realize that this is not the only way to measure and regulate reduced obesity, although it is perhaps the easiest. For example, although it would complicate things, we could modify our scheme to reward significant improvement short of achieving nonobese status. Suppose Acme is assigned responsibility for an obese child who needs to shed X pounds to qualify as nonobese. One possible solution would be that, if Acme helps the child lose at least half those pounds, then Acme might be given a one-half unit of credit. In this respect, although Acme would be 100 percent responsible for the status of the child, it would not necessarily have to cure the child 100 percent in order to receive some credit.

One might consider this solution a reasonable compromise between competing interests. On the one hand, it is probably quite difficult to get an already extremely obese child down to the nonobesity threshold. Yet firms should not completely neglect these children on the assumption that such efforts would be wasted were the child to make significant improvement but fall short of being cured. (Note the parallel problem with NCLB and the incentive of schools to give up on children who are "hopelessly far behind.") On the other hand, firms should not receive full credit for getting only halfway to the plan's objective, because the regulation should preserve a firm's incentive to help children achieve their weight-loss goals.

Yet another (perhaps even more complicated) solution would be to move entirely to an excess-weight measure as the performance-based target. Instead of giving Acme responsibility for 5 percent of the obese children, the regulation could give Acme responsibility for the excess weight of 5 percent of the obese children covered by the plan. Under this approach, Acme could get some credit toward meeting its obligation for every pound of lowered excess weight of the children in its pool.

But, for now, for reasons of both ease and consistency of description, we will assume the plan goes ahead on the binary basis of giving Acme credit only when there are fewer children in its pool who are obese.

The discussion so far goes to the question of deciding when a firm will be credited with success for the children assigned to it. But

how should one decide which children are Acme's obligation? Here is where we bring back the schools.

E. Assigning Children to Firms

1. *Using Schools as the Pooling Mechanism.* Children largely divide their time between home (a private area) and school (a public area). We have concluded that there is considerable appeal in organizing the duties of regulated firms around schools. If nothing else, we think that it is fairly easy to measure obesity rates in schools. Moreover, given that the primary functions of schooling are education and socialization, the school setting is potentially a good place to reeducate and resocialize children to healthy eating and drinking and to healthy living more generally. Firms covered by the plan might think it best to reach out at the community level rather than focus on schools, but even broader community cohesion is often anchored in a community's schools.

Therefore, broadly speaking, our proposal first assigns schools to firms. That is, multiple schools will typically be matched to a given firm, but multiple firms are not matched to a given school. That way, accountability for progress with respect to a given school's population can be reliably established. Thus, a firm like Acme will have to reduce the overall obesity rate for children attending the group of schools assigned to it.

Notice, however, that under our proposal Acme's target is not school specific. It gets credit for lower obesity wherever it achieves it. So it does not matter for purposes of our program whether its schools all wind up with the same obesity rate, or even if they all wind up with a rate at or below some target. For Acme, its goal is to contribute 250,000 fewer obese children (from the schools assigned to it) to the national target of 5 million.

2. *Eligible Schools.* But we do not include all schools in our proposal. Instead, for a school to be eligible to be matched to a firm under the regulation, we have concluded that it should currently have an obesity rate among its children of 8 percent or more. One reason for this limitation is that these are the schools whose children, as a group, are doing worse than the target national average. In this way, the firms in the program will have to focus their resources on schools

that exhibit a substantial problem, possibly reflective of a larger community problem.¹⁴⁵ Second, by focusing on these schools, firms may be able to take advantage of economies of scale, because every measure they implement will reach proportionately more afflicted children. There is another consequence of limiting the program to the subset of schools with higher obesity rates. A firm can achieve compliance only by bringing down the obesity rates in participating schools further than would be required if it could get credit for obesity reduction in schools that already have relatively low rates. Finally, creating a threshold obesity-rate requirement for covered schools helps avoid a potentially unattractive feature of how firms' achievements might be attained. This has to do with the social-class aspects of the obesity problem.

Suppose that Madison Elementary School, with an obesity rate of 5 percent or less, were assigned to Acme, and suppose that Madison is predominantly populated with the children of white, upper-middle-class families. This is consistent with the available social science data, which shows that the obesity problem is especially critical for low-income children¹⁴⁶ and children of color.¹⁴⁷ So, as with

145. Professor Petty and others draw the connection between food consumption habits and income:

Studies show that low-income consumers of all races have less information about healthy products than middle- and high-income consumers. People of color who are also low-income consumers may be less likely to purchase such products and to receive the benefits from using them. In a recent study of advertising on prime time television, researchers found that a disproportionate number of ads for unhealthy foods were aired on television programs favored by Black Americans.

....

... Although there are many reasons for these differences [in the obesity rates of racial groups], experts suggest that some factors include poor nutrition, a lower percentage of grocery stores in urban areas as compared to suburban areas, a lack of readily available healthier foods such as fresh fruits and vegetables, and insufficient information about the nutritional benefits of such foods.

Ross D. Petty et al., *Regulating Target Marketing and Other Race-Based Advertising Practices*, 8 MICH. J. RACE & L. 335, 356–58 (2003).

146. NESTLE, *supra* note 92, at 27 (“In the United States, low-income groups seem to have about the same nutrient intake as people who are better off, but they choose diets higher in calories, fat, meat, and sugar, and they display higher rates of obesity and chronic diseases.”); see also Joanne F. Guthrie et al., *Understanding Economic and Behavioral Influences on Fruit and Vegetable Choices*, 3 AMBER WAVES 36, 38 (2005), available at http://www.ers.usda.gov/AmberWaves/April05/pdf/april05_feature_fruitsandvegetables.pdf (noting that higher levels of income and education in households induce greater weekly spending on produce).

147. “Obesity rates are rising rapidly among children and adolescents, especially those who are African-American or Hispanic. In the early 1990s, for example, 23% of white girls aged 6-11 were overweight, compared to 29% of Mexican-American girls and 31% of black girls.” NESTLE, *supra* note 92, at 175. Moreover, “[b]oth [Coca-Cola and PepsiCo], for example,

the concern that PBR in the pollution field might create “toxic hot spots” in low income and minority communities and with the requirement in NCLB that schools make educational progress with respect to all racial/ethnic groups, we want to avoid at the outset the risk that primarily upper-income areas will benefit from PBR in the field of childhood obesity. Put differently, by excluding schools like Madison from the plan, we ensure that participating firm resources will be disproportionately made available to children in low-income and minority communities.

Moreover, including all schools in the program might allow some participating firms to meet their targets too easily—a problem that some say exists with using PBR in the RECLAIM program in the pollution field. Returning to the Madison Elementary School example, because there is unlikely to be a pervasive, community-wide problem with adult obesity around the school, Acme will probably have to battle few counterproductive forces in its attempt to reduce the obesity rate of children at Madison. Furthermore, the school’s families are likely to include fewer single parents, and among the two-parent households, many are likely to have one parent who does not work outside the home.¹⁴⁸ It is possible, then, that Acme might simply institute a rather uncreative and inexpensive “awareness-raising” campaign, knowing that the families of the relatively few obese (or potentially obese) children are already in a position to exert substantial effort and attention to changing their own child’s situation.

To be sure, a school with already low obesity rates might face the problem that most of its children who are obese are actually the hardest to change. This could happen because most families in those schools have already taken the obvious and easier measures to prevent obesity in their own children. In that case, Acme would find out that cheap schemes aimed at children in those schools do not work, and it might actually choose to focus its attention on the schools with higher rates. But, we are reluctant to leave that to chance.

aggressively target African-American and Hispanic consumers with ‘guerilla-marketing tactics’ to distribute products in urban neighborhoods.” *Id.* at 201. See also Patricia M. Anderson et al., *Maternal Employment and Overweight Children*, 22 J. HEALTH ECON. 477, 485, 487 (2003), for a discussion of studies that have shown African-American children are more likely to be overweight and that Hispanic and African-American children are heavier on average.

148. *But cf.* Anderson et al., *supra* note 147, at 485 (finding that mothers working higher numbers of hours negatively affects the weight of children in households of higher income).

Suppose Acme focuses on Madison by promoting a hands-on approach on the part of parents, and suppose this were effective for the Madison community. Yet, for reasons already noted, many lower-income parents are likely not in a position to devote their time and energies to such schemes. This means that strategies that work for Madison may well fail in the schools where poorer families predominate, so that those schools would not benefit from merely copying Madison-based strategies. Worse, an approach like that imagined for Madison threatens to undermine a central goal of PBR, which is to reconceptualize the obesity crisis as principally a food industry problem rather than a parenting problem. In sum, dealing only with schools with obesity rates of 8 percent or more, firms are more likely to have to contend with children whose weight issues cannot be easily solved with cheap measures largely carried out by parents. This strategy also reinforces our central goal of reframing childhood obesity as problem to be solved by the food industry rather than by parents.

We recognize that a potentially unintended side effect of focusing the regulation entirely on reducing obesity rates in schools with high rates could be an increase in the obesity rate in schools like Madison that the regulation does not cover. Were that to happen, it would undercut any success firms achieved in covered schools. Yet, we are skeptical that obesity rates would rise in the schools outside the plan as a consequence of firm interventions in participating schools. Indeed, we believe that, if anything, the rates in nonparticipating schools more likely would also go down. For example, those schools might voluntarily adopt programs that they see as working to reduce obesity rates in participating schools.

Notice now that the way we have structured our program means that participating firms do not need to reduce obesity rates in all of the participating schools to 8 percent to achieve full compliance. First, as already noted, because a firm's number of fewer obese children can come from any of its assigned schools, overall national compliance could be achieved in the absence of success in certain individual schools. Second, the number of obese children in participating schools is sufficiently high that it will likely be necessary only to reduce the average obesity rate across all participating schools to approximately 10 percent (as a rough estimate). Put differently, because the overall national goal of 8 percent includes children in nonparticipating schools whose rates are already under 8 percent (and, we assume, will remain so), the average rate in participating schools can be higher.

A numerical example further illustrates the point. Suppose that of approximately 60 million school children nationwide, 40 million attend participating schools, and of these children, say, 9 million are obese; assume further that 20 million children attend nonparticipating schools in which, say, 1 million are obese. This puts the obesity rate at 5 percent in the nonparticipating schools, over 20 percent in the participating schools, and just over 16 percent overall (the actual national average). For the participating schools, then, the goal would be to reduce the 9 million number by 5 million, leaving them with 4 million obese children, which would yield an overall average obesity rate of 10 percent in those schools (i.e., 4 million out of 40 million). A reduction from 9 to 4 million for the schools in the program would mean that the program has made terrific headway in turning around the childhood obesity problem.

Note also that, based on these numbers, a firm like Acme would be assigned schools with slightly more than 400,000 obese children, out of whom 250,000 would be its target reduction goal. Put differently, its schools would probably have around 2 million children enrolled (5 percent of 40 million) of whom slightly more than 20 percent were obese at the program's inception.

3. *School Assignment Formula.* The performance goal of our plan is to reduce the national obesity rate of schoolchildren to 8 percent, and only schools whose obesity rates are above 8 percent will be assigned to participating firms. Thus, to assign schools to firms properly, we need to find the target average obesity rate at the eligible schools that would reduce the national rate to 8 percent. Knowing this target obesity rate, we can assign schools in a way that ensures that each firm is responsible for the appropriate number of schoolchildren to meet its obesity reduction goals.¹⁴⁹

Here is a mathematical presentation of the derivation of the school-set assignment.

Let x be the proportion of students attending ineligible schools. That is, x is the fraction consisting of the number of students from ineligible schools divided by the total number of schoolchildren.

Then $(1 - x)$ is the proportion of students attending eligible schools.

149. If Acme is responsible for curing 100 obese children, we cannot assign it schools whose total obese population is 100, because then Acme would have to reduce the obesity rate to 0 percent at its assigned schools.

Let y be the current average obesity rate of the ineligible schools.

Let z be the target average obesity rate at the eligible schools. By target, we mean the average rate that would cause the average nationwide rate (combining eligible and ineligible schools) to be 8 percent.

The values of x and y are current data, and thus are ascertainable. We want to find the value of z in terms of the “known” quantities x and y .

By construction, the values x , y , and z satisfy the following relationship:

$$x * y + (1 - x) * z = 0.08.$$

Solving for z in terms of x and y , we get

$$z = \frac{0.08 - x * y}{1 - x}.$$

Therefore, Acme must be assigned a subset T of eligible schools such that

$$N(T) - z * P(T) = S(\text{Acme}) * (5\text{million}),$$

where $N(T)$ is the total number of obese children at this set T of schools, $P(T)$ is the total population of children aggregated for all the schools in T , and $S(\text{Acme})$ is Acme’s share of the obesity problem, derived in Section C.

Note again how, under our proposal, a firm receives credit for all reductions in the obesity rate at its assigned schools; that is, it continues to count reduced obesity even after a participating school’s rate has dipped to 8 percent. One reason for this is that there are no “diminishing marginal returns” when it comes to healthy children; each additional healthy child is a worthwhile objective. We admit that this point is somewhat in tension with the decision to make only certain schools eligible, but recall that our reasons for excluding certain schools from the program had primarily to do with separate concerns about insufficiently focusing on children from low-income and minority families and fears that intervention strategies might overemphasize direct parental acts that are only practical for primarily well-to-do families. Second, once a school is in the program,

we do not want to chill vigorous efforts on the part of firms, and if a firm is having particular success at a certain school with a certain strategy, the regulatory scheme should recognize and encourage such success.

4. *School Clusters.* In giving Acme (and other firms) the schools for which they are responsible, we have concluded that it would be wise to cluster those schools geographically, rather than scattering an individual firm's target schools across the nation.

This approach has several benefits. First, the firm can take advantage of the community momentum that will build up as a result of its efforts at a group of neighboring schools. School clustering will also be logistically convenient for firms, because they can send their nutritional and fitness experts, and other personnel associated with the antiobesity project, to one or a few geographical areas, rather than many.

More importantly, the method of clustering will significantly reduce free-rider effects. Suppose Acme wants to incorporate health-promoting advertisements into its antiobesity campaign.¹⁵⁰ If it is assigned a geographically compact set of schools, it can use local media to get out its message. By contrast, if the school-allocation system gave Acme a geographically diffuse set of schools, then an advertising campaign would reach many schoolchildren who are not assigned to Acme. Not only is this economically wasteful from Acme's point of view, but if the advertisements have positive effects for non-Acme students, then the non-Acme firms in charge of these children receive credit for the progress of these children without having contributed to the result.

There is another way that clustering can mitigate the free-rider problem. In our proposal, we also vertically cluster schools. That is, we assign the same firm all the elementary and middle schools that feed into a particular high school.¹⁵¹ This way, the firm has more control over a longer-term stream of children. If the firm instills good habits in the students of an elementary school, another firm will not

150. For example, Kaiser Permanente has launched an advertising campaign promoting health. See Press Release, Kaiser Permanente, "Thrive" Ad Campaign Changing Consumer Perceptions of Kaiser Permanente (July 6, 2005), available at http://ckp.kp.org/newsroom/national/archive/nat_050722_newthrive.html.

151. Obviously, this implicates geographic clustering as well, given that feeder schools are in the same district as the school into which they feed.

reap the rewards when those same students show up as not obese in middle school and high school.

One might be concerned about the robustness of allocating schools to firms instead of children to firms. After all, the population size of a school could change, as could the character of that population. We argue that geographic clustering ensures robustness of the scheme. That is to say, in the general case, the scheme will absorb such changes without significant impact. A general population boom is unlikely to occur within the ten-year lifespan of the scheme, but even if it did occur, all firms' schools would experience the bloat, and so there would be no imbalance. Recall that the allocation was merely a slicing of the obesity-problem pie. Therefore, however big the pie, a general population boom would preserve such a distribution. On the other hand, significant changes to a school's population as a result of local forces are also unlikely to affect the firm because such dramatic population changes occur most often when one school in a district closes down and neighboring schools absorb the displaced students. With geographical clustering, both the closed-down school and the absorbing schools would be assigned to the same firm, and so the firm experiences no change. The character of the students in the schools assigned to a firm is also unlikely to change dramatically within ten years. If such changes do occur, however, they are immaterial because a firm receives no guarantees that it will get to work with a certain type of student population.

We must acknowledge one additional point here. Without certain sorts of cooperation among participating firms, we concede that our scheme would provide little incentive to an individual national firm to adopt a national campaign effort, including an effort to make a national change in the nature of its product or the extent of its consumption. For example, suppose Coke gets assigned schools located in a large circle radiating out from its national headquarters in Atlanta (perhaps all Georgia schools, just to make the point here). National efforts by Coke to cut the amount of Coke high school students drink, or to reduce the amount of sugar in Coke, assuming that those changes were effective in the battle against childhood obesity, would presumably have a national impact. Yet Coke, under our plan, only gets credit for that portion of the impact felt in Georgia. Hence, unless Coke can somehow coordinate with Pepsi, Cadbury, and other similar participating firms who sell sweetened beverages, it might well focus its attentions only where it will earn its credits.

F. Timeline for the Regulatory Cycle

1. *The Initial Cycle.* All firms potentially regulated by our plan will be given a one-year notice period before the first regulation cycle takes effect. For one thing, this period allows firms to take steps to avoid inclusion in the regulation altogether. For instance, a firm could change the composition of its product so that it no longer satisfied the nutritional prong. Avoidance by way of the marketing prong will probably be more difficult. If the firm previously satisfied only the second part of the marketing prong¹⁵² by marketing significantly to children, it need only curtail such marketing measures in order to be excluded from the scheme. But, if the firm satisfied the first part of the marketing prong due to significant product consumption by children, the firm most likely could not reverse this situation in the span of a year. In fact, probably the fastest way to discourage child consumption is to change the nutritional composition of the product so as to not qualify for inclusion in the scheme altogether.

A second purpose of the phase-in period is to allow the regulators to determine which firms are covered, what each firm's share of the regulatory target is, and which schools are to be each firm's responsibility. Recall that a firm's assigned schools will be chosen so that, when the populations of its constituent schools are aggregated, an appropriate number of obese children become that firm's responsibility. Suppose a firm like Acme is charged with eliminating the obese status of N children (say, 250,000, to use a previous example).

One year after the assignment of schools, Acme will be required to have finalized its initial intervention plan and begun implementation. In this regard, the scheme has an element of management-based regulation, akin to NCLB.¹⁵³ But no obesity reduction would yet be required as an interim matter.

To avoid heavy penalties, Acme must have reduced the number of obese children in those schools by at least, say, $.5N$ (125,000 according to the numbers in the example) by the end of the fifth year. Throughout the period until this point, however, provided that firm has an active intervention plan on file, the regulator will presume that the firm is putting the wheels in motion, and that results will naturally

152. See *supra* Part IV.B.2.b.

153. See *supra* Part I.F.1.

take some time to materialize. At the five-year mark, however, the regulator will begin to hold Acme tightly accountable for producing results. Moreover, after year five, the firm's target will be prorated for the remaining five years of the regulation cycle and penalties will apply in each of the following years of the cycle. Thus, the first milestone is $.5N$ children, the second is $.6N$, the third is $.7N$, the fourth is $.8N$, the fifth is $.9N$, and the final milestone of the cycle is N , occurring at the end of year ten.¹⁵⁴

If Acme does not meet the first milestone target of $.5N$, it will incur a per-child penalty that year, paying an amount (which we discuss in Section H)¹⁵⁵ for each child by which the target number is missed. Moreover, Acme's target of $.6N$ for the next year remains in force. Thus, if Acme has not reached its $.6N$ goal by that next year, it will incur a penalty for whatever its overall shortfall is as of that point in time. In this way, if a firm fails to reach its target at any one year in time, to avoid penalties the following year it must both catch up to its prior target and also make sufficient further progress to meet its higher target for the next year. This system of perpetually penalizing any early delinquency continues for the remainder of the regulation cycle.¹⁵⁶

In this regard, our penalty scheme is different from that proposed by Dr. Jonathan Gruber when he recommended that the federal government impose a PBR scheme on cigarette makers as a remedy in its RICO lawsuit against the tobacco industry.¹⁵⁷ In Gruber's plan, at the end of the first year the firm pays a per-smoker fee for each youth it should have by then prevented from smoking but did not. The fee is meant to be a disgorgement of the income stream of profits that accrue to the firm if the youth in question remains a

154. One consideration is to refund penalties incurred in years six to nine if the firm cures N obese children by year ten, though nonlinearly. This modification might depend on what the agency does with the penalty money during the course of the regulation. Will it go in a trust to defray the *future* health costs of *these* uncured obese children, or will it be used contemporaneously with the regulatory program on other obese (adults? children?) in society who are *currently* incurring health care costs?

155. See *infra* Part IV.H.

156. In addition to these penalties, the plan could assess an extra penalty at the end of the program for falling significantly short of the target.

157. See Jonathan Gruber, Expert Report on Forward-Looking Remedies to Combat Youth Smoking (unpublished report, on file with the *Duke Law Journal*), available at <http://www.tobacco-on-trial.com/2005/03/21/gruber-expert-report-on-forward-looking-remedies-to-combat-youth-smoking>.

lifelong smoker. To avoid “double counting,”¹⁵⁸ Gruber then removes these already-penalized-for smokers from the calculation the following year, when assessing how far short (if at all) the firm has by then fallen in its task of preventing youth smoking. At that point, the firm, in effect, only pays for “new” failures.¹⁵⁹ Gruber’s approach is based on the notion that once a firm has already paid for this youth’s lifetime of smoking, it should not have to pay again if that youth continues smoking the next year.¹⁶⁰ Yet, we find it troubling that his scheme effectively allows a firm to keep teen smokers hooked once it has paid for them.

To give a numerical example, suppose Philip Morris is supposed to reduce the number of youth smokers of its brands from 1000 to 800 at the end of period one and to 600 by the end of period two. Now suppose it falls short of its target at the end of period one because there are 900 youth smokers of its brands. At that point Philip Morris will incur a penalty for each of those 100 excess smokers. For the next period, however, it will no longer have to meet its target of 600 youth smokers to avoid penalties. Rather, as per its original assignment, it will only have to reduce the number of smokers by 200 in the second period, thereby making its effective target rate for the end of the second period 700. One way to view this is that Philip Morris has bought up part of its target (100 smokers) by paying a penalty at the end of the first period. A different way to put it is that the initial target is not really 800 at the end of the first period and 600 at the end of the second period, but rather a 200-smoker reduction in the first period, followed by a 200-smoker reduction in the second period (as measured by the number of smokers at the end of the first period).

By contrast, our proposal exacts penalties year by year, giving firms a continuing incentive to meet their original targets. This means that the social goal of achieving, say, a 50 percent reduction in childhood obesity remains in place throughout the life of the program. Gruber’s solution, in effect, gives up on a parallel reduction in youth smoking prevalence once firms pay a one-time penalty for failing to meet an interim target. In our approach a firm’s own early failures or interim willingness to pay penalties in exchange for shaking off the responsibility for solving the problem does not undermine or erode the overall target. (Of course, the difference

158. *Id.*

159. *Id.*

160. *Id.*

between the two approaches needs to be taken into account in deciding on the amount of the penalties, as we discuss in Section H.)

A second point is that our plan intends for any penalties that firms pay to be put toward covering the societal costs associated with obesity, rather than toward obesity prevention measures. That is, the penalty moneys are to be used to deal with the by-product of firms' failures. In Gruber's plan, it appears that penalty moneys might well go toward funding government campaigns to discourage youth smoking. But if so, then the government will, in effect, be doing some of the tobacco industry's job for it. Not only is this inconsistent with the core strategy of PBR of making firms (rather than government or the family) responsible for achieving the social objective, but also it means that firms that fail early in the process may wind up benefiting later on by getting credit for achieving at least some of their target when the social gain is actually due to public health initiatives.

2. *Subsequent Cycles.* After the initial cycle, additional cycles may be necessary to deal more adequately with the problem of childhood obesity—say, to reduce the national rate to 4 percent, or perhaps even to maintain an 8 percent rate. Subsequent cycles should be progressively more fine-tuned, as valuable information is amassed about how to measure the problem, how to measure progress, how to assign responsibility to individual firms, and more.

The transition from one cycle to the next is a matter that will require some care. Assuming for now there is to be a second cycle, we suggest that the regulator notify firms of their potential inclusion in the next cycle one year before the end of the initial regulation cycle so that they can prepare. As in the initial cycle, firms can avoid inclusion by altering their product or sharply reducing consumption by and marketing to children, pursuant to the nutritional and marketing prongs of the inclusion test.

If a firm was exempt under the small business exception when the initial regulation was enacted but subsequently grew enough to qualify for inclusion, it would nonetheless remain outside the scheme for the first cycle. But, the now-qualifying firm would be included in the next cycle. So, too, a firm's reduced sales during the first cycle might properly warrant its exclusion from the second cycle. Yet, to combat corporate manipulation designed to evade continued inclusion in the scheme, if a covered firm "becomes" a small firm merely by breaking away from an included parent company during the first cycle, then the smaller firm will remain in the regulatory

scheme, receiving a pro rata share of the former parent company's burden.

3. *Midcycle Modifications.* Because the length of the regulation is ten years (not counting the one-year notice period before the regulation takes effect), there are likely to be both political and regulatory temptations to modify the program partway through it. For example, some might feel that the nutritional standards in the two-prong test for product inclusion no longer reflect science's best estimate of what the "bad" foods are. Others may contend that a bigger (or smaller) number of firms should be within reach of the program. Some might say that the targets or the penalties now seem too high or too low in light of new information. Others might want schools reassigned.

In general, it is important to ignore these sirens, no matter how wise their song may sound. At the outset of the program, the regulator needs to send firms a clear signal that there will be no midcycle modifications. This action has two main purposes. First, it allows firms to begin planning in earnest, without wondering whether they are misallocating resources because targets and penalties will soon shift, or the list of included products will soon change. They can begin developing a relationship with specific schools and communities, knowing that the goodwill they build will not crumble away due to a reshuffling of schools and firms. Rigidity of program parameters during a cycle also facilitates fair competition among firms. A firm that actually feels positive about participating in the program will not have its commitment dampened by the fear that competing firms are putting resources toward unfairly evading their share of the responsibility for obesity.

This brings us to the second argument against midcycle modification. If such modifications are an option, firms may focus their money, energy, and creativity on lobbying for a relaxing of standards rather than finding solutions to childhood obesity. A related consideration involves information firms gather about the cost and difficulty of meeting the targets. If the firms sense pliability in the regulator, they have an incentive to manipulate their data to make it seem as though the targets, the penalties, or both, are unreasonable and unmanageable. We want to avoid this.

Another possible midcycle modification deserves special attention. Suppose a new technology is discovered that seems to hold great promise for solving the problem of childhood obesity. It could

be a new kind of artificial sweetener or fat substitute. It could be a new way of advertising that magically motivates children to be physically active. If such a technology is discovered, some might feel that the regulatory scheme should be altered from a performance-based system to one in which the government either directly implements this technology to solve the childhood obesity problem, or requires firms to include it as part of their antiobesity efforts. In other words, the more people think they know the answer to the question of how to reduce childhood obesity, the more temptation there is to move away from performance-based regulation and toward command-and-control regulation.

This instinct is misguided for several reasons. First, the government should not step in and implement the “solution” for the same reason that the government should not be using the penalty proceeds in Gruber’s performance-based proposal to prevent children from smoking. To do so would mean that firms that bear a large share of the responsibility for creating the problem could effectively excuse themselves from the responsibility of solving it by free-riding on complementary government efforts.

Moreover, the government also should not force all firms to adopt the same technology as part of their antiobesity strategy. As novel and insightful as the technology may seem, there is no guarantee that it will actually be, and remain, the right answer. There are advantages to the diversification of strategies. Suppose that the seemingly wonderful technology has a latent and harmful flaw. Permitting diversification will mitigate the overall damage. Besides, firms that elect not to use this specific technology will presumably be implementing other measures, perhaps also novel. Such experimentation could lead to the discovery of an even more effective strategy. At the very least, sticking to the more open-ended performance-based system rather than incorporating command-and-control best preserves the potential for beneficial pooling from a wide variety of strategies.

At the same time, one need not worry that a true gem of an answer to the obesity problem will fall by the wayside simply because the government does not force firms to implement it. So long as a program is in place that forces firms to internalize the cost of the childhood obesity problem, they have an incentive to incorporate measures that indeed seem most effective and efficient. In this way, one can trust that a truly great technology will indeed catch on among

firms, while the government will not force a faddish panacea upon firms and the public in a rush of premature enthusiasm.

Of course, this argument against mandating new technology applies not only to midcycle modifications, but also to reenactments of the program in subsequent cycles. The difference is that, at least throughout the first cycle, the regulation ought to be committed to the principles of outcome-based regulation, if the purported benefits of such a system are to be realized or debunked. After the first cycle, legislators are of course free to abandon the whole system in favor of new types of governmental action, a command-and-control regime, or no program at all. At that point, they will at least have experienced a whole cycle of experimentation with the challenge of solving the obesity problem through PBR. And although ten years may seem like a long time to await results and to make changes, if the plan works it will reduce obesity rates faster than they have increased in recent decades.

A more serious concern could arise if the sellers of “bad” food after the end of year five, say, were a very different set of firms than those subject to the regulatory scheme. This, in theory, might happen if either small exempt firms suddenly took a large share of the “bad” food market or new entrants swept into and largely captured the “bad” food market. Yet, we find this an unlikely scenario, at least so long as mergers, acquisitions, spin offs, and the like of food industry firms are subject to appropriate “responsibility tracing” rules. After all, the main recent developers of new high fat/high sugar products are the existing food companies; and besides, large retailers, who are already in the plan, would almost surely be selling any new and popular “bad” food products. It would take the emergence from out of nowhere of a new Wal-Mart type of establishment to create a serious mismatch between who is being regulated and who is actually selling “bad” food during the length of the initial cycle; and that seems unlikely to happen in five or six years.

G. Measuring Compliance

It is important that the regulator regularly appraise the progress that firms are making toward their ultimate performance target. First, a firm must present the regulator its initial plan at the end of year one.

Subsequently, the regulator must be informed as to what progress the firm has made at the yearly milestones between years

five and ten. This information is necessary to assess penalties should a firm fail to meet its target. Firms themselves, however, will probably be keeping track of much more data than this. Indeed, firms will take frequent measurements of the children in their charge to assess which methods are working and which are not and to have plenty of opportunity to change course if results are not forthcoming. Given that firms will already be spending resources gathering the data the regulator needs, it is advantageous to rely primarily on the data gathered by firms. The danger that a firm will manipulate or misreport its data, however, somewhat compromises this advantage to the regulator. To strike a balance between the competing interests of efficiency and integrity in the regulatory scheme, the regulator will need to conduct audits, both randomly and for cause, of the data supplied by firms. If irregularities in the data support a finding of fraud or bad faith, the regulator will subject the firm to additional, very substantial penalties.

H. The Economics of Penalty and Target Choices

So far we have assumed that a national childhood obesity rate of 8 percent—a 50 percent reduction in the current rate—is a reasonable target for ten years after the date the scheme goes into effect. And we have assumed that the regulator can threaten firms with sensible penalties at the ends of years five through ten that should give them appropriate incentives to bring the childhood obesity rate down according to schedule. Here we wish to explore, more theoretically, both what is an appropriate target for the PBR scheme and what are appropriate penalties.

1. *The Ideal Level of Performance.* First, we assume the marginal social cost of childhood obesity to be a constant function, although this does not affect the remainder of our analysis.¹⁶¹ This social cost includes the cost of health care,¹⁶² lower future wages,¹⁶³

161. If the marginal social cost function is not constant, the (necessarily constant) average social cost can be used as the relevant measure.

162. See, e.g., NESTLE, *supra* note 92, at 7 (“The diet-related medical costs for just six health conditions—coronary heart disease, cancer, stroke, diabetes, hypertension, and obesity—exceeded \$70 billion in 1995. Some authorities believe that just a 1% reduction in intake of saturated fat across the population would prevent more than 30,000 cases of coronary heart disease annually and save more than a billion dollars in health care costs.”).

163. See John Cawley, *The Impact of Obesity on Wages*, 39 J. HUM. RESOURCES 451, 456–68 (2004), summarized in THOMAS PHILIPSON ET AL., ECON. RES. SERV., USDA, THE ECONOMICS

etc.¹⁶⁴ In theory, it should also include the real costs that defy measurement, such as the emotional and social toll exacted by childhood obesity. Second, we assume that the marginal cost per child of obesity prevention is generally upward sloping, like a supply curve. Indeed, because some children will be more difficult to cure (or to prevent from becoming obese), firms will have to implement more expensive and creative methods to reach more of them. Thus, the social cost function and the prevention cost function are likely to look like Figure 1 below.¹⁶⁵

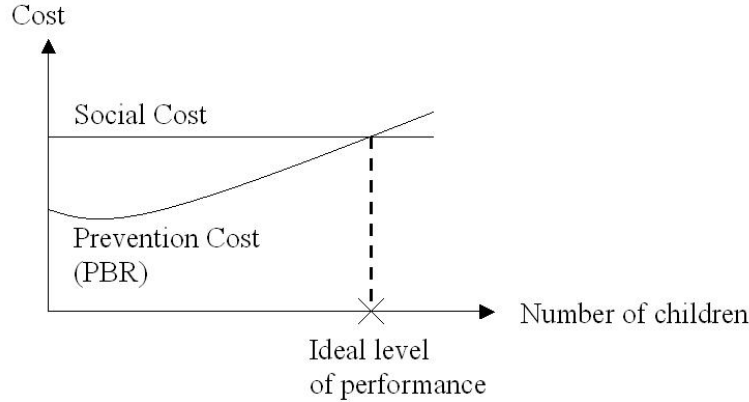
The x-coordinate of the point at which the social cost and prevention cost functions intersect gives the ideal level of performance. For children below this level, the prevention cost curve lies below the social cost curve, meaning that money can be saved by preventing rather than bearing the social cost. Conversely, for each child above this level, it is more efficient to bear the social costs than to prevent or cure the obesity, because this portion of the prevention cost curve lies above the social cost curve.

OF OBESITY 18 (May 2004), <http://www.ers.usda.gov/publications/efan04004/efan04004.pdf> (“For each race/ethnic group of females, both BMI and weight in pounds have negative and statistically significant effects on wages.”).

164. See Forrest Lee Andrews, Comment, *Small Bites: Obesity Lawsuits Prepare to Take on the Fast Food Industry*, 15 ALB. L.J. SCI. & TECH. 153, 157 (2004) (“In 1995, ‘total cost[s] (direct and indirect) attributable to obesity amounted to \$99 billion.’”) (quoting OFFICE OF THE SURGEON GEN., U.S. DEP’T OF HEALTH AND HUM. SERVS., THE SURGEON GENERAL’S CALL TO ACTION TO PREVENT AND DECREASE OVERWEIGHT AND OBESITY (2001), available at <http://www.surgeongeneral.gov/topics/obesity/calltoaction/CalltoAction.pdf>).

165. It is possible that the prevention cost curve lies entirely above the social cost curve. That would mean that, for every child, it is more economically efficient to allow the child to be obese and have that child and society bear the associated costs, than to expend the resources necessary to prevent or cure obesity in that child. Because data exists for the adult obesity problem that indicates that the curves do intersect, the likelihood of this occurring is negligible, and so we may disregard such an arrangement of the curves. Consider those people (whether few or many) who experience long-term success with programs like Jenny Craig or Weight Watchers. The total cost of these diet programs includes both the cost of weight reduction (i.e., convenient, low-calorie food, as well as counseling, etc.) and a profit for the company. The successful consumer of such a program has determined that social costs and other costs associated with his own excess weight exceed the cost of the diet program. For this particular consumer, the diet program is all that is necessary to cure the obesity, so the cost of curing is less than the cost of obesity. Therefore, this particular person lies to the left of the intersection of the curves. On the other hand, those for whom “everything fails”—or at least, those who decide that the various weight-loss efforts “aren’t worth it”—lie to the right of the intersection, assuming they are accounting for all the real costs, including health care, associated with obesity.

Figure 1. Social and Prevention Cost Curves for Obesity Reduction



Therefore, ideally one might wish to set the per-child penalty so that it equals the per-child social cost, and the target so that it equals the “ideal level of performance” as defined by the intersection point.¹⁶⁶ In this way, a participating firm would have a clear financial incentive to reduce obesity rates efficiently, and when it achieved the efficient level of reduction, it would find itself not facing any penalties.

In reality, however, these functions are unknown, so any per-child penalty and target values would only be informed guesses. As explained so far, our proposal envisions reducing the number of obese children from 10 million to 5 million. Yet, we admit that we do not know whether means exist or can be readily developed to achieve that degree of reduction at a reasonable cost (or, on the other hand,

166. One could argue that a per-child “profit disgorgement” is the proper measure for a firm’s penalty for failing to cure a child. Such a penalty would be based on the fiction that, had the firm Acme prevented a child from eating any included products (junk food) during the year, the child would no longer be obese. Acme could have found some alternative strategy for eliminating the obese status of the child, but failed to do so. Therefore, the penalty, in a sense, would force Acme to disgorge the profits reaped from that child’s consumption of junk food over the course of the year.

Because the child consumed a variety of products, some of which are not made by Acme, Acme did not literally reap profits from all of that child’s consumption. We, however, have already accounted for the fact that Acme is only partially to blame for the national food crisis, and consequently given Acme *sole* responsibility for only a relatively small number of the obese children.

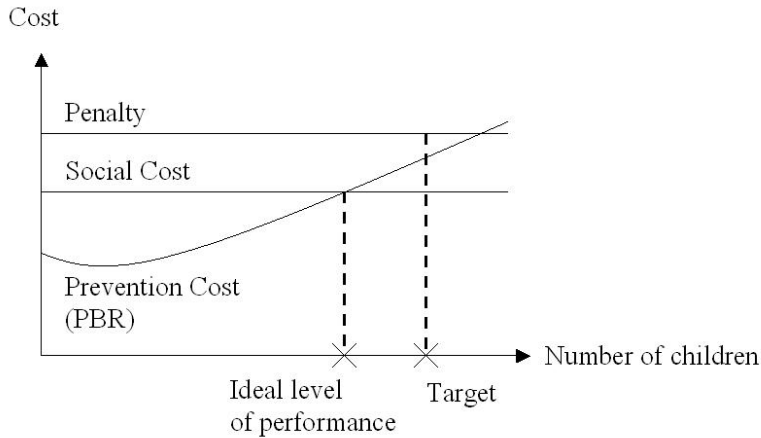
In a performance-based system, it makes more sense to base the penalty on total social cost. This is more in line with the strict liability spirit of this form of regulation, in which cleaning up the cost an industry imposes on society is the main objective.

whether 5 million is not an ambitious enough reduction). Moreover, because we do not know the marginal cost of obesity reduction at the point where the two curves cross, we do not really know how high to set the ideal penalty for noncompliance.

Thus, it is important to analyze what outcomes to expect when our estimates overreach, or fall short of, the values we seek to approximate.

2. *High Penalty and High Target.* First imagine a scenario in which the penalty exceeds the social cost, and the target exceeds the ideal level of performance. Figure 2 illustrates this scenario.

Figure 2. *Social and Prevention Cost Curves for Obesity Reduction—High Penalty, High Target*

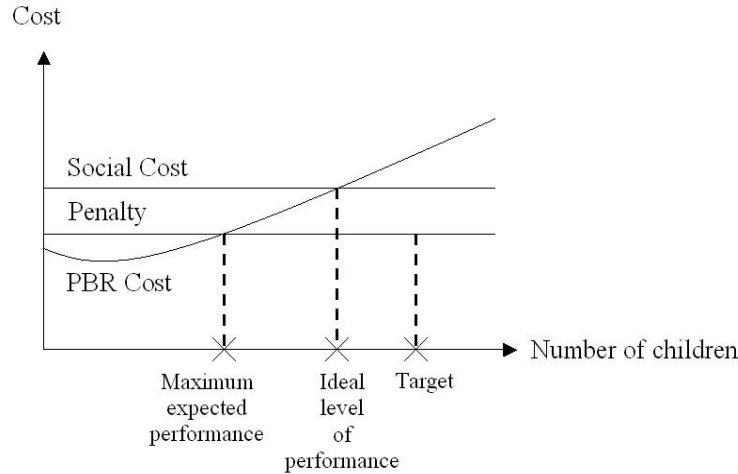


For each child below the target, the prevention cost is less than the penalty, so the firm will have an incentive to expend resources to reduce the obesity of all of these children. Yet it is economically inefficient to spend resources on some of these children (depicted on the x-axis in the interval between “ideal level of performance” and “target”).

3. *Low Penalty and High Target.* Suppose now that the target remains at the same level, but that the penalty is set at a lower value than the social cost. In such a case, the maximum performance that a firm will shoot for is the level at which the marginal prevention cost equals the penalty. Because the prevention cost function is increasing,

it will be more expensive to cure the children beyond this level than to pay the per-child penalty. Hence, the firm will simply elect to pay the fine for the children represented on the x-axis in the interval between “maximum expected performance” and “target.”

Figure 3. *Social and Prevention Cost Curves for Obesity Reduction—Low Penalty, High Target*



4. *Effects of a Low Target.* Refer to the diagram in Section 2. Suppose the penalty remains high compared to the social cost, but the target is lowered. Following the same logic as in Section 2, the firm will expend resources up until it reaches the target, because the entire portion of the x-axis to the left of the target represents children for whom it is cheaper to prevent obesity than to pay the penalty. Therefore, with a high penalty, lowering the target simply truncates the expected level of performance from the firm.

Now refer to Figure 2. Suppose the penalty remains low compared to the social cost, but the target is also lowered. Sliding the target closer to (but still to the right of) the “maximum expected performance” simply results in fewer penalties incurred by the firm. The firm will still perform only up to the “maximum expected performance” location, because for all subsequent children it is cheaper to pay the penalty. If the target slides down, however, so that it lies to the left of the “maximum expected performance,” then the firm will only perform up to the target and then stop, because the scheme requires nothing more from the firm.

5. *Maximum Expected Performance.* We can now give an expression for the maximum level of performance we can expect for a given choice of penalty and target, denoted $\text{Max}(P, T)$.

$$\text{Max}(P, T) = \min\{T, \langle x | \text{PBR}(x) = P \rangle\}$$

The expression $\langle x | \text{PBR}(x) = P \rangle$ denotes the level of performance, x , for which the associated prevention cost equals the penalty. We take whichever is the minimum between this value and the target, because we can expect a rational firm to stop performing once they reach the target. The diagram in Section 2 illustrates a scenario in which the target T is smaller than the intersection point $\langle x | \text{PBR}(x) = P \rangle$, and thus the firm performs only up to the target. By contrast, the diagram in Section 3 illustrates a scenario in which the intersection point $\langle x | \text{PBR}(x) = P \rangle$ is smaller than the target T , and so the firm performs only up to this intersection point.

6. *Choosing the Penalty and Target.* If we cannot accurately guess what the “ideal level of performance” is, should our proposal err on the side of a target that is too high, or one that is too low? And what about the penalty—should it be set too high or too low?

There are two arguments in favor of setting the target and penalty too high. First, we have already discussed the natural parallels between a performance-based regulatory system and the system of strict liability in tort law, showing how PBR is more similar to strict liability than to negligence-based tort law.¹⁶⁷ In a negligence system, the law aims to require firms to do that which is reasonable. From the “law and economics” view, “reasonable” means doing only that which is economically efficient. By contrast, a strict liability system often demands that firms be responsible for harms that firms cannot (at present) efficiently avoid.

The classical justifications for imposing strict liability on an industry also support the proposition that it is better for the industry to cover too much of the costs it imposes on society rather than too little. For instance, as between two equally innocent (or equally culpable) parties—the food manufacturer and the food consumer—the preference is to shift the cost of injury (i.e., obesity) onto manufacturers because they are better able to absorb this cost.

167. See *supra* Part I.D.2.

Moreover, they can spread this cost by passing it on to all consumers, in effect acting like an insurer. Another classical justification that applies well is the existence of an asymmetry of information between manufacturers and consumers of food products. The manufacturer knows exactly what the product contains and has better access to food scientists and other experts who can determine what effects the contents are likely to have on consumers. Thus, it is more reasonable to place on manufacturers the burden of avoiding harm or the cost of compensating victims. This strict liability way of thinking supports the idea that that our performance-based regulation should place both the penalty and the target high so as to promote a high enough level of performance on the part of the firms, even if such a level ends up being a bit “too” high.

The second advantage of imposing a high penalty and target applies only to the first cycle of the regulation. Recall that if the social cost and prevention cost functions were known in advance, the regulator could set the penalty and target closer to the ideal. Setting a very high penalty and target will result in the highest level of firm performance, because a firm is willing to perform so long as the cost of performance is less than the cost of the penalty, and it has not yet met the target. But this also means that, under such circumstances, the firm progresses furthest along its prevention cost curve, thereby “discovering” more of the curve than it would have under a lesser penalty and target. This information is extremely useful to the regulator¹⁶⁸ in determining the desirable levels of penalty and target for subsequent regulation cycle periods, assuming the program is continued.

So far, we have suggested a reduction of 5 million obese children as the proposed target for the PBR scheme. With regard to the penalty, beyond the recommendation that it be “on the high side,” we cannot at this time suggest an actual dollar amount. As already discussed,¹⁶⁹ we feel that the program should assess the penalty on a per-child annual basis rather than the per-child lifetime basis used in Gruber’s proposed remedy for tobacco. The regulator, however, should compute the actual amount of the penalty after evaluating the available data on the social cost of obesity. The data will be imperfect, but it will give a good starting point.

168. *See supra* Part IV.G (discussing penalties for fraudulent misreporting of data).

169. *See supra* Part IV.F.1.

I. Should a Tradable Permits Feature Be Included?

Absent a tradable permits approach, if Acme, for example, is to avoid penalties at the end of year five, it must have 125,000 fewer obese children in its assigned schools than it had had at the outset of the scheme (say, 300,000 instead of 425,000 at the outset). But under a tradable permits approach, if it were unable to reduce its initial number sufficiently, it could avoid penalties by “buying” the right to have more than 300,000 obese children from other regulated firms that have exceeded their targets (or who could be enticed to do so with a payment for the permit by Acme).

The economic advantage to this approach is that more efficient firms will carry larger loads so that society can achieve the 8 percent overall goal at the lowest cost. So, too, Acme might find that (despite initial efforts to assign each firm a relatively similar pool of children) it has wound up with a disproportionately harder to reach set of children. In that case as well, Acme might find it easier to meet its target if it can buy permits from firms who have populations that turn out to be easier to treat.

Furthermore, firms might decide that they want to treat children in areas other than the ones the program has assigned them. With the right amount of cash to make the deal work for both sides, firms might swap the children on whom they focus under a tradable permit scheme. Acme, for example, might wish to achieve its obesity-reduction target in Kentucky even though even though the program has assigned it schools in Oregon. But if a deal could be struck with, say, Bell Corporation that has responsibility for the Kentucky schools, then Acme would be able to meet its 125,000 fewer obese children target elsewhere than in Oregon.

Although some of those who favor a PBR approach are likely to find attractive the further flexibility and potential efficiency gains that come from introducing the tradable permit feature, others will object. One likely objection is that this promotes the commoditization of children to an unacceptable degree. Worse, even though we restricted the participating schools to those with the highest obesity levels, among them there will be more and less attractive schools from the viewpoint of the regulated firms, and this risks creating the equivalent of the “toxic hot spots” that plague to Los Angeles’s RECLAIM program.¹⁷⁰ Finally, many will want the assigned firms to have to stick

170. See *supra* Part I.F.2.

with the children and schools to which they have been matched at the outset of the program, if for no other reason than this permits the local community to develop a stable relationship with its responsible firm (or the group that the regulated firm selects to do the actual obesity reduction work for it¹⁷¹). And although we admit that firms are quite unlikely to slough off communities with which they have developed good working relationships, we fear that schools with better organized and savvier staffs and parents will more quickly develop those ties, risking leaving behind those schools that may have the greatest need. After all, the scheme we have put forward requires at least some cooperation by schools, and perhaps some regulated firms will try to convince their assigned schools to take a very active and direct role in the obesity reduction campaign. But schools as institutions themselves are very different from each other and very differently positioned to make children's health a priority, especially if they are badly failing with the children's education. (And even if reduced obesity rates did go hand in hand with higher academic achievement, actually getting to that outcome can be enormously more difficult for some schools.) For these reasons, our instinct is not to include the tradable permit feature as part of our PBR plan, although we do not consider this a "deal breaker" feature.

J. How to Proceed

Many public health advocates for reduced childhood obesity instinctively think first of national solutions spearheaded by the federal government.¹⁷² Consider a changed national school lunch program, controls on television ads aimed at children,¹⁷³ and a

171. If Acme swaps schools with Bell, it might want to apply its own consulting firm to the newly acquired school, rather than retaining the consultants that had previously been working with the students on behalf of Bell. See *infra* Part VI.B.

172. Some researchers claim that local legislative measures have little influence on nationwide industry practices. Statewide legislation has more potential, although the amount of political compromise required to pass it can reduce its effectiveness, it is sometimes not enforced due to industry opposition, and it is often not far-reaching enough to alter the practices of large national or multinational corporations.

Alderman & Daynard, *supra* note 10, at 84 (citation omitted).

173. See David Vladeck et al., *Commercial Speech and the Public's Health: Regulating Advertisements of Tobacco, Alcohol, High Fat Foods and Other Potentially Hazardous Products*, 32 J.L. MED. & ETHICS 32, 32 (2004) ("Thus far, a divided Court has generally sided with the proponents of free commercial speech, sometimes striking down lower court rulings that found for the public health viewpoint. These cases indicate that the majority of the Court currently

nationwide requirement that fast-food outlets clearly disclose to buyers nutritional and calorie information about the items they are selling.¹⁷⁴ But, experience with the tobacco control movement suggests that greater health gains might occur through policy reform at the state, or even local, level.¹⁷⁵ And, indeed, several obesity reduction strategies already have a local focus.¹⁷⁶ Think of efforts to rid schools of bad food in vending machines, to limit the number of fast-food outlets near schools, and to help small grocers in low-income communities stock healthy fruits and vegetables.

With respect to PBR, we have been describing our plan so far as though it would be a national scheme. Yet that may not be necessary or wise. Just as precursor approaches to NCLB began at the state level, this might also work well for PBR applied to childhood obesity. We can certainly imagine applying our plan to the major bad food sellers in a state like California, for example. We are not concerned about gaining regulatory jurisdiction over them, and we view the California market as more than large enough to make feasible the administration of our proposal. Although some firms might have significantly different market shares of bad food consumed in California than elsewhere, we suspect that, in the end, a countrywide plan would target most of the same national enterprises that would dominate the list of those regulated in California. Moreover, California has plenty of schools with high proportions of obese children in attendance so as to provide a large and important target for the program.

prefers the First Amendment interests of advertisers over the health and safety goals of government.”).

174. See Rebecca S. Fribush, Note, *Putting Calorie and Fat Counts on the Table: Should Mandatory Nutritional Disclosure Laws Apply to Restaurant Foods?*, 73 GEO. WASH. L. REV. 377, 379 (2005) (“[R]estaurants with more than a certain number of branches would be required to make nutritional information easily available to customers through nutrition data sheets or similar means, but would not be required to put such information directly on menus or menu boards.”).

175. “Legislative success against the tobacco industry occurred primarily at the local level.” Alderman & Daynard, *supra* note 10, at 84. In addition, “[l]ocal public health–related legislation may have a large impact on a small segment of the population, while litigation may have a smaller impact on a much larger scale.” *Id.* at 85.

176. See Mello et al., *supra* note 18, at 2603 (“As of 2000, 19 taxed foods that are not nutritious (such as soft drinks and candy). Several other states had such taxes, but repealed them in the 1990s because of pressure from the affected industries and difficulties administrating them (for example, some states had difficulty determining which foods met the definition of a taxable item).”).

Indeed, viewing states as places in which experiments in government intervention are conducted, it might make special sense to adopt PBR in one or a few large states at the outset, leaving other states to experiment with competing regulatory mechanisms to battle childhood obesity. This would provide a kind of natural experiment by which the alternative regulatory approaches could be comparatively evaluated—although it might be methodologically difficult to deal with the possibility that impacts of regulatory reform in some states are spilling over into others.

Whether states have the regulatory capacity to implement PBR is another matter, although with adequate money for administration, we do not see this as an insurmountable hurdle in states like California. There, for example, the state Department of Health Services has created a reasonably well-funded and effective tobacco control network.¹⁷⁷

Indeed, even at the national level we foresee the need for a beefed up regulatory apparatus if Congress applies PBR to bad food providers. Our instinct would be to place the administration of the program in the FDA (and not the USDA, which seems too long identified, and politically allied, with the food industry).¹⁷⁸ But new staff, new expertise, and creative leadership will be required to determine precisely which foods are covered by our plan, which enterprises are to be regulated, what each firm's share of the childhood obesity-reduction target is, what precise schools are the responsibility of each firm, whether firms are meeting their targets, what the proper penalties for noncompliance are, and how those penalties are enforced.

V. POLITICS

A. *Reframing the Issue*

One of the goals of the PBR approach is to frame childhood obesity as a problem for which the food industry is importantly responsible, and not a problem for which families alone are responsible.¹⁷⁹ A good analogy is how NCLB framed low educational

177. See Tobacco Control Section, Cal. Dep't of Health Servs., Welcome to the Tobacco Control Section Website, <http://www.dhs.ca.gov/tobacco> (last visited Mar. 8, 2007).

178. See NESTLE, *supra* note 92, at 99–102.

179. A similar approach has been taken elsewhere. See *id.* at 183 (“The [American Academy of Pediatrics] recognized that the ultimate control of children’s television viewing rests with

achievement as an underperforming-school problem rather than a parenting problem. So, too, applying PBR to cigarettes would reinforce the perception that youth smoking is something for which tobacco companies, not parents, are centrally responsible.

Indeed, we hope that merely talking up PBR as a way to attack childhood obesity will emphasize the role that bad food and beverages sellers now play in this growing social problem and facilitate further calls for them to take responsibility for the consequences of their products. That, in turn, can increase the possibility that legislatures will intervene in an active way to fight childhood obesity.

Moreover, given how relatively little is known about just what interventions are best suited to roll back the recent jump in childhood obesity, a focus on PBR avoids the pitfall confronting any specific command-and-control regulatory proposal that the food industry is sure to attack as unproved. Indeed, to fight PBR, food companies will probably have to argue that they do not know how to solve the problem, an unattractive position to hold if the public can first be convinced that those very firms are centrally the cause of a problem for which they are now seeking to duck responsibility.

B. Opportunities for Political Entrepreneurs

We hope that PBR is a sufficiently attractive and novel approach that it can win the attention of some political entrepreneurs who wish to further their careers by promoting headline-grabbing reforms that hold promise for making a real difference in solving a serious social problem.

We also hope that, amid the increasing clamor for some legislative action on childhood obesity, most likely of the command-and-control sort, PBR can find some bipartisan support. Democrats could find it attractive because it calls on government to act in a way that puts the responsibility for the problem on big business. Some Republicans might conclude that PBR is the better solution as compared with proposals that would order business to do this or that specific thing. Our plan has something of the feel of a class action by a group of plaintiffs against a group of defendants, yet without the

parents and caretakers, but it also called on industry and government to take responsibility for what gets aired.”).

litigation features; indeed, as already emphasized, through successful compliance, regulated firms can altogether avoid financial penalties.

C. Response of the Food Industry

We recognize that food firms are likely to focus their early efforts on seeing to it that our proposal is not adopted, or, if it is adopted, then in an ineffectual form. They will probably begin by seeking to discredit the core idea that this is a problem for the food industry to solve (i.e., resisting the framing we propose). Food industry opponents might also claim that PBR is simply impractical, regardless of its theoretical appeal. Yet, some firms with a longer horizon may come to appreciate that PBR is a better regime with which to live if the alternative is command-and-control regulation, especially if increasing controls are likely to be imposed if early rules do not quickly provide the socially desired results.

If our PBR idea were to gain legislative momentum, then potentially impacted firms might focus on modifying its terms, say, by minimizing the penalties for noncompliance, minimizing the required reductions in obesity, and/or by extracting some additional beneficial exceptions and/or favorable definitions. And yet, if the prevalence of childhood obesity continues to rise, pressure for some sort of regulation will rise with it, thereby increasingly forcing food companies to think about less burdensome alternatives.

Moreover, in such a climate, we predict that the food industry would become increasingly splintered. Healthy food providers will see an opportunity to gain market share and profit as legal burdens are placed on bad food sellers. And at least some bad food sellers are likely to see PBR as an opportunity for them to reformulate their product in a healthier way so that it will be exempt from the regime, again offering such firms an opportunity to gain economic advantages over their competitors.

VI. HOW THE FOOD INDUSTRY WOULD IMPLEMENT PERFORMANCE-BASED REGULATION

Assume now that our PBR plan is actually put in place. Covered firms might then respond in several ways. This section explores both the bright and dark side of possible implementation strategies and suggests additional regulatory controls that will be required. We should reemphasize, however, that the specific ways that the regulated firms would respond are unpredictable; indeed, the very

point of PBR is for firms to make those choices and to vary their response over time as they learn what works best. Nonetheless, we can make some more generalized points to which the relevant regulatory body must be attentive.

A. Adopt Potentially Perverse Responses (and How to Block That)

We recognize the risk that firms may respond to PRB in ways that are socially undesirable. Although performance-based regulation is intended to give firms wide latitude with respect to what measures to implement, it is important to have a check in place to guard against firms using unsavory means to accomplish the desired ends. Firms that propose or put in place plans that include elements that are against public policy must be required to revise their plans.

Some red flags include (a) strategies designed not to reduce the prevalence of childhood obesity, but rather to shift obese children away from the firm's assigned schools; (b) strategies that would have socially unacceptable consequences for obese, or near-obese, children (like shaming them or denying them educational opportunities); (c) strategies that would insist on socially unacceptable intrusions into the bodies of obese, or near-obese, children (like requiring them to submit to surgery or drugs); and (d) strategies that would cause children to become undernourished and/or excessively skinny. If a firm proceeds to implement a disapproved method, it will incur a substantial financial penalty.

In addition to deliberately perverse responses by regulated firms, there is the risk of unintended and undesired consequences. Suppose, for example, obesity rates were reduced, but educational attainment was sacrificed; or suppose teens wound up engaging in socially unacceptable conduct as a way of reaching individual weight goals (like smoking cigarettes, sweating off pounds just before weigh-ins, and the like).

We also appreciate that any campaign against childhood obesity could well stigmatize some children who become obese, even if, for some of them, becoming so is largely outside of their control. This is somewhat like the problem the tobacco control movement faces when it inevitably stigmatizes addicted smokers. In the end, this is perhaps a socially inevitable price to be paid by public health campaigns against what are seen as "behavioral" public health problems like smoking and obesity.

To minimize these various undesirable consequences, the regulatory body supervising the PBR plan would have the authority to veto objectionable features of any firm's plan as implemented. Beyond that, the regulators could also conduct random audits of the regulated firms and engage the cooperation of the participating schools (say, through whistle-blower rewards) in policing socially unacceptable implementation measures. And, the regulatory agency might also engage in affirmative educational efforts to prevent the social isolation of obese persons.

A different problem is that, in response to our PBR plan, some firms might decide to "fake it." For example, they might adopt a superficial "plan" to satisfy the first year planning requirement of the regulation and then, rather than really doing anything to achieve their target, they would simply set aside money to pay the penalties. By cavalierly paying penalties instead of trying to achieve their targets, these firms might hope to discredit PBR as an ineffective mechanism for achieving reduced levels of childhood obesity.

There would be risks to firms in taking this approach, however. First, were PBR to fail, this could lead to even more objectionable command-and-control regulation over the food industry. Second, this sort of "slacking" might be foolishly wasteful—especially if success stories appear in which other firms reduce obesity rates at costs well below the penalty level. Therefore, even if the regulatory agency might not be able to do much formally to combat "fakers," there is reason to hope that most firms would not adopt this sort of high-risk approach.

Still other worries about our proposal concern the fear that participating firms will get too involved with the lives of the pool of children for which they are responsible. Some people may be bothered that our program will invade children's privacy or diminish parental authority. Some people may dread that schools will actually become more commercialized and that children will develop brand loyalty to those very sellers of "bad" food who will be in their schools supposedly looking after their dietary health. Although we do not share this trepidation, once more we think that the solution lies in allowing the regulatory agency in charge to veto what would be widely understood to be socially unacceptable plan features.

B. Buy or Make?

Instead of marshalling their own internal resources in an effort to achieve their assigned target, some firms might farm out the task of reducing childhood obesity to independent, outside firms that would come to specialize in this work. Indeed, it is possible that such firms might take on the job on a contingent payment basis. Thinking back to the Acme example, Acme will realize that because it is supposed to reduce childhood obesity by the end of year five by 125,000 children, it will face a penalty of \$Y per child if it achieves no reduction at all. And if Acme decides that it would cost the company more than \$Y per child to achieve any reduction itself, it will realize that it will be better off if it can pay some other party less than \$Y for each reduction that the other party achieves. Moreover, among firms seeking to do this work, there should be an incentive to compete to do it most efficiently, thereby bidding the price charged to Acme lower and lower.

By contrast, other firms would “personally” embrace the duties imposed by the regulation, by investing in in-house research and development of ways to address childhood obesity.

Whether an individual firm goes the contracting-out route (which we term the “buy” obesity reduction strategy) or the do-it-in-house route (which we term the “make” strategy), we predict that a new industry¹⁸⁰ of obesity-prevention consulting firms is likely to emerge. As already suggested, these firms would perhaps themselves take on the financial risk of obesity reduction if many firms pursue the “buy” route and pay only contingent on success. But even for firms that more formally follow the in-house “make” route, firms are likely to turn to obesity consultants to help them strategize as to how to engage the schools with whom they are paired, to provide expert advice as to which reduction strategies are proving most effective, to provide in-house training, and to help with monitoring and evaluation efforts so that regulated firms will know in advance how much they are spending, whether they are succeeding, and what financial penalties, if any, loom.

This likely development of obesity-reduction specialist firms has disadvantages as well as advantages. The main plus is likely to be that greater specialization will lead to greater expertise and greater success. In addition, the consulting firm may be in a better position

180. Or, one spun off from the existing weight-loss industry.

than the participating firm to accomplish its singular goal, given that the latter would have the dual conflicting goals of obesity prevention and product sales.¹⁸¹ Finally, the consulting firm would enjoy economies of scale by serving multiple clients and therefore multiple sets of schools.

On the other hand, such economies of scale may come with a price, because, if the actual “doers” are a few players, our proposal then risks losing out on some of the benefits of experimentation. Additionally, although the farming out of obesity prevention may alleviate the food firm’s burden of having dual goals, it might impose a different sort of conflict on the consulting firms. If a consultant represents more than one food firm, it might represent business rivals, which could cause some difficulty for the consultant.¹⁸² Yet, we do not find this prospect terribly bothersome because food firms are already used to dealing with potential conflicts among advertising firms who might represent competitors. In the end, a perhaps greater concern would be that, to play it safe, inside managers at regulated food firms would cluster their business around a small number of superpower consultant firms, choosing the consultant based largely on its client list, hoping thereby to have a ready excuse to higher management if the firm does not meet its obesity-reduction target.

Whether firms “buy” or “make,” they are likely to employ quite different strategies in involving the assigned schools themselves in their implementation plans. Some firms might only deal with the schools in what we will assume would be their assigned role of measuring their enrolled children for obesity each year. In such schools, firms would deal directly with students and their families. Other firms might seek to have the schools themselves become the places where students (and their parents) are approached and engaged; some may well seek the active participation of school personnel. This, of course, will require that the firms win the

181. Of course, the food industry firm that farms out the task still has a goal of selling product, which may be in tension with the firm’s second goal of getting its money’s worth from the consulting firm. That is, the firm still wants to sell product and to prevent obesity. However, upon farming out the job, the tension between the two goals is attenuated because the goal pursuers are separated. Therefore, neither will be paralyzed in pursuing its primary goal due to a fear of adversely impacting its secondary goal.

182. For instance, because a person may eat a little “bad” food, it is conceivable that a consultant hired by Mars, Inc. could advise children to simply cut salty snacks out of their diet (i.e., M&Ms once in a while are okay). Conversely, a consultant hired by Frito-Lay could advise children to avoid sweets.

cooperation of their schools, which might come from providing resources to schools, or perhaps simply by showing schools that they can more easily achieve educational goals with healthier students (a “win-win” solution).

C. Getting Them Slim Versus Keeping Them Slim

When it comes to obesity, it may well be that an ounce of pound-prevention is worth a pound of cure. Many people conceive of the obesity question as, How do we help obese people slim down to a healthy weight? If one is concerned about a particular obese individual, then that is indeed the right question. Across a population, however, preventing the onset of obesity may be the more effective and economical approach. In a technical sense, this is especially true for the problem of childhood obesity, because the “turnover rate” of childhood to adulthood is rapid and reliable.

Suppose Acme is responsible for a set of schoolchildren that includes Adam, a currently obese seventeen-year-old, and Bobby, a slender eight-year-old with a higher-than-average likelihood of later becoming obese. It may be that Acme would prefer to forego expending resources to get Adam to shed weight. First of all, preventing Bobby’s weight gain may be easier and cheaper than helping Adam lose weight. Second, regardless of whether Acme succeeds or fails to slim Adam down, Acme only receives one year’s worth of penalty or reward, because Adam is about to age out of the system anyway. Bobby, on the other hand, can be a success for Acme for the next ten years if it manages to keep him slim. (Indeed, for those who will age out of the program before the end of the fifth year when the real penalties come into play, participating firms will have little incentive directly to lower the children’s obesity rate, as success with them will be ignored when the penalty-imposing time comes.)

Put generally, whenever resources are finite, choices have to be made. Thus, one could argue that viewing the regulation scheme as a population-wide prevention movement is sensible—even if that effectively requires “writing off” some students. In any event, this perspective leads us to predict that regulated firms are more likely to focus on the potentially obese as compared with the already obese, on the younger rather than the older, and, to the extent they do focus on the already obese, on the slightly obese rather than the substantially obese. Although all of this has distributional consequences that might bother some, from our perspective the key point remains that the

plan's success in cutting the childhood obesity rate in half in ten years would count as an enormous social gain. Moreover, experience gained during the first cycle with both PBR generally and with its application to childhood obesity specifically could help us to revise the plan's parameters for a second cycle if that were thought wise.

D. Seeing Performance-Based Regulation as a Public Relations Opportunity

Firms like McDonald's, as well as organizations like the National Association of Soft Drink Manufacturers, claim that obesity is not caused by the inherent nature of their products but rather by a sedentary lifestyle combined with overconsumption.¹⁸³ Our proposal, in a sense, affords firms an opportunity to confirm this theory by coming up with creative solutions to the obesity problem that do not necessarily entail eliminating their products from the diets of American youth. And, by achieving their targets, firms are likely to tout these social gains in the way they publicize other social achievements—like selection as one of the best places for employees to work.

On a public relations level, firms may also prefer this regulatory scheme to the alternatives. Consider traditional tort law, for example. If the obesity problem were addressed through existing tort law, a judgment would run against a particular firm, including a finding of fault on the part of that firm. Any remedial action ordered by the court, or simply undertaken by the firm in response to a judgment, might appear to the public as a wrongdoer taking its lumps. By contrast, the regulatory scheme we have proposed simultaneously charges many firms with the task of helping to solve a societal problem. Thus, instead of viewing vanquished defendants as a few bad apples, the public may see the group of regulated firms as active guardians of children's health, rolling up their sleeves and coming up with imaginative solutions.¹⁸⁴

183. See Benforado et al., *supra* note 1, at 1733–41.

184. See Charles F. Sabel & Michael C. Dorf, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267, 283–84 (1998) (“The foundation of [an] architecture [of institutionalized democratic deliberation] would be a new connection between the broad pronouncements of the legislature and the courts, and applications of these pronouncements to particular situations. This connection would have to leave room for experimental elaboration and revision to accommodate varied and changing circumstances, yet credibly limit the opportunities for self-dealing that this very openness of necessity seems to create.”).

Similarly, with respect to public relations, firms may also prefer performance-based regulation to command and control, because command-and-control regulation is likely to reflect badly on the food product itself. For example, suppose regulations require the Coca-Cola Company to remove Coke from school vending machines. This would imply that Coke is a bad product that youths should not consume.

In addition, compliance with a PBR scheme such as ours looks much more proactive than compliance with participation-based schemes. This is especially the case once a firm starts getting results under a PBR scheme, as such results make a better impression on the public than merely announcing that a firm is conferring with consumer advocates. Even if a firm took action based on the suggestions of the community, the firm then has less leeway, as compared to PBR, to structure the solutions so that they do not disparage the firm's product.

Another public relations benefit inuring to firms is that in-school advertising would become more legitimate. Some firms are already filling schools with advertising,¹⁸⁵ which many people find inappropriate,¹⁸⁶ and yet schools are loath to reject the financial rewards of permitting it.¹⁸⁷ Under our scheme, with a school's cooperation, a firm could proudly sponsor a "fun run," a basketball tournament, or a variety of other healthful events and information sessions.¹⁸⁸ Not only would this type of branding be less offensive, but it would actually create community goodwill for the firm.

185. NESTLE, *supra* note 92, at 188 ("A General Accounting [sic] Office investigation found it difficult to distinguish commercial from noncommercial activities in schools because such intrusion into everyday life is so intrinsic to U.S. society. The study noted that many commercial activities . . . produced no tangible benefits for the schools, although the benefits to advertisers were quite evident.").

186. *Id.* at 191 ("[O]rganizations such as the Center for Commercial-Free Public Education (Oakland, California) and the Center for Analysis of Commercialism in Education (University of Wisconsin, Milwaukee) . . . publicize the most blatant conflicts of interest in books and articles, file petitions with state legislatures, encourage lawmakers to ask for investigations and to introduce bills restricting commercial activities in schools, and demand that marketers stop advertising on Channel One. By 2001, their efforts were gaining increasing publicity and support.").

187. *Id.* ("Opposition to school commercialism is unlikely to come from financially strapped school officials grateful for whatever help they can get . . .").

188. Currently, "[m]arketing methods that target children at school" include "Channel One"; "Soft drink 'pouring-rights' agreements; Logos on vending machines, supplies, and sports facilities; Hallway advertising; Advertisements on free book covers; Advertisements on school

VII. ALTERNATIVE PERFORMANCE-BASED STRATEGIES?

Our proposal is designed to press the food industry to reduce childhood obesity. We recognize, however, that one could imagine using PBR to attack the problem in other ways. Yet, we find those alternatives less desirable.

For example, PBR could set the “output” target differently. Suppose that, instead of fewer obese children, the goal was a reduction in the amount or proportion of “bad” food sold. Imagine that firms whose products now qualify them for inclusion in our plan (their products contain 40 percent or more sugar or 30 percent or more fat) were told to cut their sales of such food in half. This would be analogous to using PBR to tell power companies to cut their toxic emissions in half. The food companies subject to the regulation would be left to decide how to achieve their target—reformulate their products, reduce sales of their existing products, or some combination.

We, however, find this PBR scheme considerably less attractive than our proposal. For one thing, it in no way ensures fewer obese children, which is the real public health goal after all. For another, it might mean depriving responsible people of food and drink items, when such people only consume those potentially dangerous products in moderate, and hence not unhealthy, amounts. There is no assurance that the reduced consumption required by this version of PBR would come from those who consume too much.¹⁸⁹

A different approach would be to continue to focus on childhood obesity reduction as the output target, but to make parties other than the food industry responsible for achieving the goal. Earlier we mentioned the possibility of targeting other industries, such as those that entice youths into a sedentary lifestyle.¹⁹⁰ But, even more radically, what if parents or schools were the regulated parties?

We also find this strategy less attractive than ours. Perhaps most importantly, it is sharply at odds with the reframing goal of our proposal, which is to cast substantial responsibility for the childhood obesity problem onto the food industry. Also, penalizing families and

buses; Sports uniforms; Scoreboards; Contests; Free samples; Coupons for fast food; Club and activity sponsorship; [and] Product placements in teaching materials.” *Id.* at 187 tbl.20.

189. For similar reasons, we also find less appealing a PBR scheme that would set a firm’s target in terms of the amount of exercise engaged in by the children in its pool, rather than their ultimate obesity rate as under our proposal.

190. See *supra* notes 129–30 and accompanying text.

schools for failing to achieve plan goals would be morally troubling—especially because, at the individual family level, genetic predisposition may confront some parents with a near-impossible task. Perhaps nearly equivalent progress could be achieved were parents and/or schools rewarded for achieving obesity reduction goals. Yet, were it true that financially rewarding parents or schools for keeping fit the children who are in their charge could sharply reduce childhood obesity, then firms subject to the PBR scheme we propose could decide on their own to employ this mechanism.

A still different approach would be not to penalize bad food sellers for failing to reduce childhood obesity, but instead to reward financially firms that do achieve a reduction. Apart from the objection that this would, in effect, be paying business to undo harms it has traditionally created, it is not obvious how these incentive payments would be targeted. Who would be responsible for which children and how would success be measured? One possibility would be to have firms bid to take responsibility for the obesity rates of children in specified blocks of schools. The higher bidder would, in effect, “win” the contract. Winning bidders would initially pay the government money, but if they were successful, they would earn considerably more back than they tendered. Winning bidders need not be “bad” food sellers. But, once again, if this turns out to be a good strategy, then “bad” food sellers under our proposal could auction off responsibility for “their schools” in the same way.

We believe that the same points apply were PBR applied to states. For example, bad food could be taxed and the proceeds used to provide payments to states that achieve obesity reduction targets. States could learn from each other, and they would have an extra incentive to lower obesity rates if there were financial rewards for doing so. Those rewards could partly pay for, or perhaps more than pay for, the cost of their obesity-reduction efforts. States, broadly speaking, would take the place of the large food companies who would be subject to PBR in our proposal. Yet, once again, if it turns out that it makes sense to rely on states to organize and implement effective obesity-prevention/reduction campaigns, the firms in our scheme can more or less achieve that solution by contract. On the other hand, relying on governments (as under NCLB) means turning to bodies that are not as accustomed to dealing with financial incentives as the private sector, and giving up on using PBR to reframe childhood obesity as importantly the responsibility of the food industry.

CONCLUSION

We concede that many difficulties confront the implementation of our proposed scheme to reduce childhood obesity through performance-based regulation. Perhaps the largest is the political challenge of passing the necessary legislation. In addition, implementing and overseeing such a regulatory scheme will require a lot of information, attention, and funding. Yet, the costs and challenges of the proposal should not be analyzed in a vacuum.

Because the epidemic of childhood obesity is spreading and becoming ever graver—as epidemics are wont to do—the government is likely to take action in one form or another. The health problems to which obese children are predisposed will cost them (and society) dearly and in increasing amounts for many years to come. Indeed, because of the latency period between obesity onset in childhood and the longer-term health problems faced by its victims, society has not yet begun to see the true medical and other costs associated with this growing condition. As a result, it is essential that the cost of regulating be measured against the cost of not regulating.

So too, the morality of regulating the food industry should be assessed in light of the morality of doing nothing. Opponents of utilizing PBR in this context will tout freedom of choice and personal responsibility as justifications for shielding the food industry from accountability for the childhood obesity problem. Children themselves, however, are not responsible for their choices, and we believe there is a growing appreciation that parents cannot be expected to battle their children all day, every day, in an effort to counteract the powerful and undeniable effects of the food industry's marketing ploys.

The parallels between the food and tobacco industries have not escaped notice, and legal and public health experts are working to analyze whether “Big Food” can be brought to the mat using the tools that have been applied or proposed for confronting “Big Tobacco.” In sum, for many of the same reasons advanced by advocates of PBR in the context of youth smoking, we believe that the problem of childhood obesity is amenable to a solution in which performance-based regulation plays a critical role.