Fighting Childhood Obesity through Performance-Based Regulation of the Food Industry

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Introduction

We propose a scheme of “performance-based regulation” as a way of combating America’s childhood obesity problem. In a nutshell, large firms that sell food and drink that is high in sugar or fat will be assigned the responsibility for 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%. Participating firms will have ten years to reduce the obesity rate in their assigned schools by more than 50%, and will face substantial penalties starting at the end of the fifth year if they fail to meet the regulatory goals.

After explaining performance-based regulation (“PBR”) as a regulatory strategy and comparing it with other approaches to the childhood obesity issue, we then present our plan. 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.)

In America today, obesity is a health problem that many classify as an epidemic. Particularly troubling is the level of obesity among children, which has tripled over the last thirty years. That this problem has escalated to a

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1 “Scientists categorize a person as ‘overweight’ if they have a Body Mass Index (‘BMI’) greater than 25 kg/m\(^2\), and as ‘obese’ if they have a BMI greater than or equal to 30 kg/m\(^2\).” Adam Benforado, Jon Hanson & David Yosifon, Broken Scales: Obesity and Justice in America, 53 EMORY L.J. 1645, 1648 n.3 (2004). With respect to children, the term “obese” will “correspond to a BMI for age at the 95th percentile or higher.” Id. at 1649 n.6. “The IOM [Institute of Medicine] defines obesity in children as those having a body mass index (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? National Health Policy Forum, Issue Brief—No. 814, at 3 (August 15, 2006).
2 Id. at 1649; Salinsky, supra note _, at 3; Institute of Medicine, Progress in Preventing Childhood Obesity: How Do We Measure Up? Report Brief, September 2006 (“Over the past 30 years, the obesity rate has nearly tripled for children ages 2-5 years (from 5 to 14
point requiring action is a fairly uncontentious notion. However, people disagree about what the solution should look like, and the positions fill a spectrum.

There are those who firmly believe the answer lies with parental accountability. 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 shouldn’t use government to interfere with (and perhaps even undermine) that responsibility. To the extent that parents are now understood to be failing their children, this viewpoint argues that we should rely on decentralized societal forces to nudge parents to better 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.

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.

Many other people believe not only that something needs to be done, but also that government has a role to play. Indeed, some think that government is already a substantial cause of the problem. They don’t like the way our agricultural food subsidies work (promoting the production of high fructose corn syrup, for example); they don’t like the way our children are fed through the national school lunch program; they don’t like the political clout that agribusiness has with regulatory agencies like the USDA and the FDA; 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.

Yet, many have concluded that government has an affirmative role to play with respect to childhood obesity, although they are very much divided over what that should be. For example, after acknowledging the human frailties of parents and their children, some merely urge government to make efforts to inform the public about healthy eating and healthy activities. But, they argue, governmental action going beyond the informational and educational functions would be too oppressive.\(^7\)

Others are looking for a much more robust governmental response. 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. It is not that they necessarily oppose requiring such measures, but rather they predict that these will be inadequate to solve the problem. We believe this concern is compelling, given mounting evidence that our food choices are not truly our own, and are not likely to remain so, as long as we live in a world of food advertising and promotion and increased portion size of the sort that now envelops us.\(^8\)

This leads advocates to call for stricter regulatory intervention.\(^9\) Some examples of proposed action are (1) eliminating certain food items from school vending machines,\(^10\) (2) requiring fast food restaurants to include some healthy, low-calorie items on their menus, (3) sharply restricting the inclusion of trans-fats in manufactured food products,\(^11\) (4) limiting the density of fast food restaurants near facilities where children gather, (5) forbidding the retail

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\(^8\) “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.” Benforado, et al., *supra* note _, at 1723.

\(^9\) For a recent summary of a wide range of potential government interventions to attack the obesity problem, see Lawrence O. Gostin, *Law as a Tool to Facilitate Healthier Lifestyles and Prevent Obesity*, 297 JAMA No. 1 (January 3, 2007 at 87). Most of the ideas that Gostin discusses are command and control strategies.

\(^10\) “With regard to state legislative and local regulatory activity, much of the focus has been on schools. 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, although this is likely to change under guidelines recently established by the beverage industry to curtail such sales by 2010[.]” Michelle M. Mello et al., *Obesity—The New Frontier of Public Health Law*, New England Journal of Medicine 354;24 pp. 2601, 2603 (June 15, 2006) (citing American Beverage Association, School beverage guidelines Q&A. 2006. Accessed May 25, 2006, at http://www.ameribev.org/schools/GuidelineQandA.asp).

sale of certain junk food to children,12 (6) eliminating the advertising of sweet or high fat foods in connections with children’s TV programs,13 (7) upgrading school lunches so that they are healthier,14 (8) requiring cities to subsidize grocery stores in low income areas that sell fresh fruits and vegetables, (9) assuring all children safe access to parks and bicycle paths, and (10) requiring schools to increase the duration and intensity of physical education.

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 parties to be regulated should behave, and so, the point of regulation is to spell out that behavior and effectively enforce the specified obligations.

We should also mention here that other advocates believe the solution to childhood obesity, at least initially, is to be found 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.15

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 litigation as the solution (about which we will say more at the end). Instead,

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12 See Randolph Kline, Samantha Graff, Leslie Zellers & Marice Ashe, Symposium: Food Marketing to Children and the Law: Beyond Advertising Controls: Influencing Junk-Food Marketing and Consumption with Policy Innovations Developed in Tobacco Control, 39 Loyola of Los Angeles L. Rev. 603, 612 (2006) (arguing that banning sale of junk food near schools would facilitate restrictions of advertising near schools, since the regulated commercial speech would no longer concern lawful activity: “If a product cannot be lawfully sold, then the First Amendment, via Central Hudson, does not protect the advertising of the product.”).

13 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, 458 (2004); Mello, supra note __, at 2605 (stating that “there 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 food’ to children.” Mello, supra note __, at 2602.

14 Cf. Simone A. French, Symposium: Sugar and Fat—From Genes to Culture: Pricing Effects on Food Choices, 133 J. Nutrition 841S, 843S (2003) (“These school-based data suggest that a strategy that implements small price increases on popular high fat foods and modest price reductions on lower fat foods is potentially financially feasible as a long-term strategy to promote healthful food choices.”) (discussing possible pricing strategies for cafeterias).

15 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 __, at 85. However, some researchers believe “it is not likely that food personal injury cases would be successful at this time.” Alderman & Daynard, supra note __, at 86.
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.
II. About PBR

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 problem to be addressed is the amount of pollution in the air. With command and control regulation, factories might be directed to install certain filters on their pipes that spew pollutants into the air — 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.

In a similar vein, in the arena of worker health and safety, a regulation 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.

One now frequently touted command and control example with which to attack the problem of childhood obesity is to ban the sale of sweetened beverages in public schools, based on expert determination that this supply-curtailment strategy would reduce obesity rates.16

By contrast, PBR does not tell the relevant actors how to behave in solving the problem. It would 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, under PBR a firm or industry is told what its outputs or results should be with regard to a certain problem. Then, the regulated party itself is left with 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

16 Richard Posner supports anti-obesity 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.” The Fat Tax blog entry, available at http://www.becker-posner-blog.com/archives/2006/10/taxing_fatbecke.html.
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 below, 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. The reason government often imposes non-optimal regulatory requirements is that 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, in order 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 isn’t simple. It requires deciding who to appropriately subject to regulation and what to require by way of performance. On top of that, it is also necessary to figure out how to measure compliance and what penalties to impose for non-compliance. 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 will be targeted, 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 which approach is taken, 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.”17 Here, what the regulator requires is that those directly affected by an industry be involved in its

decision-making process. For example, workers themselves might be given 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. And in the childhood 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, firms are neither told what they must achieve nor how they are to do things. Instead, they are required 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 for their views to be acted upon?

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, it is not necessarily required that participants 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 other director and executive self-dealing to the detriment of shareholders, and to assure that executive compensation is not extraordinarily excessive. But one could at least imagine an outside director, or several, with the obligation to look out for interests of other constituents, including workers, consumers, and third parties impacted by enterprise externalities.

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For now, our point is only to contrast the underlying assumptions of participation and PBR. With PBR, outcomes are specified, not process. 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 would be for the regulated party to decide.

C. Compared with Management-based Regulation

Next, we wish to note yet 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. The level of improvement is not specified by the regulator, as would be the case in PBR; nor is the nature of the solution dictated, as would be the case in command-and-control regulation.

This is a kind of “soft law” that demands participation of a different sort. Here either single firms or groups of them are required to engage with the regulators, putting forward their way to attack the social problem identified by the regulator. For example, the electric utility companies and the auto makers 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 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.

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20 Although not strictly “management-based,” some people favor the strategy of self-regulation: “[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, supra note _, at 2607. “In addition to government regulation of child-oriented advertising, the advertising and food and beverage industries have adopted voluntary, self-regulatory standards that seek to ensure that marketing directed at children is not inappropriately manipulative.” Salinsky, supra note _, at 11 (discussing Children’s Advertising Review Unit (CARU), and acknowledging that “[a]dvocates have questioned the effectiveness of CARU efforts” due to “problems with current enforcement activities and inadequacy in the scope of existing guidelines”). Salinsky also noted that the Institute of Medicine “committee 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.
The potential benefits of this approach are that it furthers government-industry harmony in pursuit of the public interest, and it may increase the likelihood of compliance without need for strong enforcement. Of course, it risks achieving a socially insufficient solution. In this respect, PBR is meant to be tougher. Yet PBR is similar in the sense that management-based regulation also relies on those causing the problem to best figure out how to solve it.

D. Compared with Tort Law

As noted already, tort law is yet another possible regulatory strategy. Simply put, auto makers, for example, are threatened 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 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 show that the defendant acted unreasonably. This means that it is the plaintiff’s burden to come up with a convincing explanation as to what reasonable measures the defendant should have taken.

The precautions required to avoid being found negligent are the counterpart to the precautions required by command and control regulation. In both cases, it is an agency of government telling 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 non-expert jurors. Yet, this distinction should not be exaggerated. Negligence law expects courtroom deciders 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, those same voices are 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 reasonable precautions are in the situation before it. Yet, agencies sometimes only impose minimum requirements, not optimal ones, and where 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 their new requirements are typically only applied on a going forward, or prospective, basis). Negligence law, by contrast, depends on ex post determinations of what should have been 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 will be required of them by tort law given what was 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.

Third, of course, the penalty structure of the two regimes differs, as already suggested — with negligence law requiring payments to victims, in contrast to the public penalties imposed by command and control regimes.
Moreover, the amount of the public penalty is most likely to be based on the seriousness of the failure to comply, whereas the private "penalty" imposed by tort law is normally a function of how much harm this 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, there are some factors at work that narrow this difference. For one thing, the variability in the harm suffered by individual victims tends to be averaged out, either by the defendant injuring several people over time or through the purchase of liability insurance that evens out 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 to mention concerns the difference in enforcement. Tort law will not be invoked merely for failure to implement the socially appropriate measures. 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 been injured. Yet, once more, there may be less of a difference here than first appears, since regulators often do not have sufficient staffing to police compliance with their orders, and as a result they are often only called into action to deal with non-compliers 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 precisely do we want people to act in order to further public safety.

2. Strict Liability and PBR

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 in order to avoid the harm. He is entitled to compensation simply because there was a bad outcome.

Here lies the parallel with PBR. There, too, what the regulatory regime cares about is outcomes, and not specific ways of preventing them. Put differently, in both of these regimes the regulator does not interfere with the firm’s mode of operation. It is up to the firm to decide how to avoid harming people if it is to avoid strict liability in tort, just as it is up to the firm to decide how to comply with the outcome demanded by PBR if it is 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 so is better equipped not only to deploy the best methods for reducing harm today but also to experiment with various approaches in order to more efficiently avoid harm in the future. In this respect, both might be viewed as technology forcing.\textsuperscript{21}

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 best precautions to take, or, as Guido Calabresi emphasized in the accident (and tort) setting, deciding \textit{who} is the cheapest cost avoider.\textsuperscript{22} Put differently, under command and control regulation and negligence, the government agency decides \textit{what} actions parties should take, whereas under PBR and strict liability, the government agency decides \textit{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 while this may increase the cost of getting to the socially desirable outcome, it is a matter of “as compared to what.” And 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.

While it is true that tort law today relies primarily upon fault-based liability and not strict liability, there are at least three important areas where strict liability applies, and they nicely illustrate situations where 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) mis-manufactured 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 making it unnecessary to decide whether the employer inadequately supervised or trained, or improperly hired, the individual whose fault brought about the harm.

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 try to develop a PBR regime than to try to impose strict liability in tort.

We should also note in passing that some 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

\textsuperscript{21} See generally, Justice Roger Traynor’s famous concurring opinion in Escola v. Coca Cola Bottling Co., 150 P.2d 436 (1944).
public trials combine to force into the open corporate misconduct that otherwise might remain secret. We acknowledge that the political prospects of adopting PBR could possibly be improved if tort litigation were to expose bad behavior of food and beverage companies. Yet, that sort of interim objective is not the center of our focus here.

E. Compared with Subsidies and Taxes

Finally, a still different 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 no particular outcome is specified.

With PBR, a firm is penalized (analogous to a tax) only if it fails to achieve its regulatory target. Hence, PBR (more akin to tort law) relies more on the threat of a tax than actually imposing the tax. When a tax strategy is employed, 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.

F. Examples of Performance-Based Regulation

In various forms, PBR has been implemented in a number of different areas. Below, 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. After that, we briefly explore how PBR might be used to attack the very important public health problem of cigarette smoking, conceding that smoking is a problem that is more readily amenable to PBR than is obesity.

1. No Child Left Behind

The No Child Left Behind law (NCLB) is a piece of federal legislation inspired by standards-based education reform movements in a number of

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states, most notably in Texas. 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, in order to establish a state’s baseline for adequate education, applicable to all schools and students in the state;

(2) create standardized tests aligned with these standards;

(3) report the results of these tests, broken down by relevant ethnic and socioeconomic subpopulations;

(4) develop “annual yearly progress” goals to ensure that each subpopulation can meet the state’s standards within twelve years;

(5) produce “report cards” ranking each subpopulation’s performance on state standardized test, 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;

(6) provide awards for schools that “significantly closed the achievement gap” between students from different ethnic groups;

(7) create opportunities for meaningful involvement of the parents of participating children.

Although the NCLB is best conceived of as an example of PBR, it also contains aspects that are arguably “management-based,” as in (4), and “participatory,” as in (7). Moreover, since NCLB also contains various directives to the school districts, it may also be said to 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 might not be when it comes to other providers of goods or services regulated though

26 Id.
27 Id.
28 Id.
29 Id.
30 Id.
31 Id. at 1722-23.
32 Id. at 1723.
PBR. Nonetheless, we think it helpful to illustrate with NCLB potential key problems with getting PBR right.

a. Properly specifying the outcome

One problem with NCLB is captured in the phrase “teaching to the test.” The outcomes to which schools are to be held accountable may not reflect the most important skills that students should develop, but rather, the skills that are simplest and cheapest to assess. For instance, it is expensive to develop a uniform system of evaluation for student writing. So, as a substitute, educational gains may be measured by student results on multiple-choice grammar tests. 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. 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.”

A different problem with the outcome requirements of NCLB is that they are set by states, not the federal government. This gives states an incentive to set low standards in order to be sure that its schools will “look good” and in order not to be subject to penalties for failures. And indeed, just as we saw with states that in earlier years imposed “tough” graduation requirements, as the data begins to show high levels of failure, we suddenly see higher outcome standards being replaced with lower ones. 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 misreport and manipulate the test data they report. Perhaps most outlandishly, classroom teachers might give students answers to the tests in advance, or change student answers, in order 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 well 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. This leads to two difficulties. One is that schools aren’t held to answer for the quality of education they are affording these latter sorts of children. The other is that schools may actually shunt other low-performing students into these alternative programs so that they don’t “drag down” the numbers achieved by the rest of the general-

education students. As a consequence, the shunted students get shortchanged, and the school is shown 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 are simply not financially equipped to implement the changes necessary to meet the performance standards that have been imposed on them by NCLB. 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 under-funded school fail to meet the required standards. In fact, meeting these standards would have been unlikely no matter who was put in charge of the school. But now the school might find that it has an even tougher time recruiting talented teachers, leading to even worse results the next year, and so on.

d. Imposing an effective enforcement mechanism

Finally, NCLB itself has weak enforcement provisions. 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. 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, the law sets up a benchmarking regime among the schools, which has the potential to create a “race to the top.” In addition, a nationwide movement comprised of multitudinous approaches to

34 Id. at 408.
35 Id. at 411.
36 Id.
37 Liebman & Sabel, supra note _, at 1724.
38 Id. at 1724-25.
39 Id. at 1723-24.
40 Id. at 1736.
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.41 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.”42

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

In Los Angeles, an environmental scheme was implemented to improve air quality that centered on the use of a declining cap in permissible emissions and tradable permits.43 Under this PBR approach, the regulator established an aggregate level of pollution of a certain sort that is allowed to be emitted by the covered plants in the LA area in a given year (under the assumption that air quality will actually be positively impacted by a decline in emissions by those plants). Individual plants are then allotted their own allowable levels of emissions, whose sum total equals the cap. If one plant emits less than its allotment, its owner can sell to another firm the legal right to pollute by this amount.44 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. In subsequent years, the cap for total emissions declines, thereby lowering each plant’s allocation. Other things equal, in each subsequent year there would be fewer excess allocations available to buy, making them more expensive.45 This, in turn, steps up the pressure on firms to develop newer and cheaper ways of reducing emissions, especially if, as is likely, less costly emissions reductions were implemented first.

We emphasize that this program is another example of PBR because the regulation specifies the outcome — how much pollution will be allowed —  

41 Id.
42 Murnane & Levy, supra note _, at 413.
44 Id. at 233.
45 Id. at 248.
and leaves it up to the regulated industry to figure out the best way to achieve this goal. Notice that in this example, the social goal was cast with respect to the total group of plants in the LA 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 pollution-reduction gains to be taken 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 permits than it has been initially allocated 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.” This occurs where 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. While 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. This is because the oldest and most polluting plants, which are most expensive to make “cleaner,” tend to be in such neighborhoods. The upshot is a distributional consequence that many find troubling.

This result could be addressed by requiring payments to be made from the neighbors of the now-cleaner plants to those living near the still-dirty plants. But this is a politically unlikely outcome given the typical facts already noted. 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.

What this shows is that by specifying the social outcome in terms of aggregate emissions for a broad geographic area, the regulator may have failed to take into account that the sub-areas within the program’s boundaries are comprised of distinct citizen groups, some of whose interests wind up

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46 Id. at 251.
47 Id.
48 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.”)
being ignored. In a sense, then, this is analogous 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.\textsuperscript{49} If, as claimed, much too much pollution was permitted at the outset, this could well have led to many firms finding themselves with excess permits without 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 of their plants.\textsuperscript{50} 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.\textsuperscript{51}

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, it can either over-deter 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 financial penalties are employed) 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,\textsuperscript{52} thereby losing any special benefits that come with the former.\textsuperscript{53}

\textsuperscript{49} Id. at 235.
\textsuperscript{50} Id. at 266.
\textsuperscript{51} Id. at 268.
\textsuperscript{52} “A Pigovian tax is a tax levied to correct the negative social side-effects of an activity. For instance, a Pigovian tax may be levied on producers who pollute the environment to encourage them to reduce pollution, and to provide revenue which may be used to counteract the negative effects of the pollution. Certain types of Pigovian taxes are sometimes referred to as sin taxes, for example taxes on alcohol and cigarettes.”
http://en.wikipedia.org/wiki/Pigouvian_tax
\textsuperscript{53} The Kyoto treaty on “global warming” envisions sharp national reductions in carbon emissions and as a result carbon-trading systems are developing that are analogous to the tradable permit scheme under RECLAIM. See, e.g., http://www.science.org.au/nova/054/054sit.htm
3. Tobacco Control

More than forty years ago, when the famous U.S. Surgeon General’s Report on smoking was released, confirming that cigarette smoking kills, more than 40% of American adults were smokers. Today the adult cigarette-smoking prevalence rate has dropped to just over 20%.\(^{54}\) Much of that reduction came in the wake of the information provided by the Surgeon General and the slow change in social norms that followed. This change substantially converted the social meaning of smoking from something that was sophisticated and “cool” to something that was stupid and reckless and probably the consequence of being duped by the tobacco companies. On the other hand, a significant share of the reduced smoking rate appears to be the result of affirmative government interventions, although not so much those of the federal government. Rather, state and local tobacco tax increases, state and local bans on smoking at workplaces of all sorts, state anti-smoking ad campaigns, and perhaps other measures as well, have together helped bring down the national smoking rate (and to even lower levels in states where those sorts of policies have been pursued most vigorously).

Nonetheless, it is not clear just what else might be done to drive rates down to the below-10% target that many in the public health community seek to reach. Perhaps a much higher tax will do the trick, although politically achieving a very high tax could be difficult. In fall 2006, for example, California voters rejected an initiative that would have imposed a $2.60 per-pack tax increase. Some people favor even tougher command and control measures like restricting tobacco companies’ promotional efforts in retail stores, banning smoking in more and more outdoor venues, and cracking down even harder on those caught selling to minors.

A different strategy, however, would be to try PBR. In applying PBR to tobacco control, it is clear to us that a sensible regulatory objective would be reduced smoking prevalence. Of course, the primary social goal is reduced morbidity and mortality from smoking-related disease. But because of the usually long latency period between starting to smoke and becoming ill, we think it makes no sense to wait decades to decide whether that social objective has been achieved, especially because we have great confidence that reduced prevalence will translate into better health outcomes. Moreover, we feel confident that we already have reliable measures of prevalence rates for each brand of cigarettes and that those rates will be reliably measured under a PBR program.

Suppose, then, tobacco companies were told that they had seven years to cut in half the prevalence rates for smokers of their brands as a group. We assume, for these purposes, that there would be interim targets, in effect, phasing in the 50% reduction in smoking rates over time. We recognize that

\(^{54}\) [http://www.cdc.gov/nchs/data/nhis/earlyrelease/200612_08.pdf](http://www.cdc.gov/nchs/data/nhis/earlyrelease/200612_08.pdf)
whether the regulatory target is a 50% reduction, or a 33% reduction, or 67% reduction, or whatever, is an important matter, but one that we will put aside for now in this example. So, too, the length of the phase-in period and the interim goals are also important parameters. But these are matters on which we believe policy agreement could reasonably be reached among those who would be given the job of reducing smoking rates through implementation of a PBR plan.

We should, however, emphasize two key assumptions underlying this proposal. The first is the judgment that it is fair to impose this obligation on the tobacco companies. That determination rests primarily on the simple fact that it is their products that are responsible for all of the tobacco-related death and disease our society faces from cigarette smoking. Put differently, we consider it appropriate to impose conditions on those who want to manufacture and sell a product that kills when used as directed. The second assumption is that tobacco companies have the capacity to comply with the PBR scheme. This determination rests primarily on the notion that, since tobacco companies have been so successful in promoting cigarette smoking, they are quite able to figure out how to reduce smoking rates (especially if we are talking about reducing those rates to something in the 8-10% range, rather than, say, the 1-3% range, which might simply require them to close up their businesses).

But, as always, PBR would leave it to the regulated parties to figure out how to achieve the social target. The companies might alter their promotional efforts, support cessation programs, raise prices a lot, and so on. PBR would leave it to each company in the industry to determine for itself the best way to comply. Notice that, unlike normal market economics, under this scheme a loss of customers to a competitor is not a bad thing. Whether the equivalent of tradable permits should be allowed under this scheme is something we put aside here.

As with any PBR scheme, an additional key is the penalty for non-compliance. Simply put, we suggest structuring the financial penalty so that it turns around the industry’s incentives. Today, a firm benefits with a lifetime of profit if it can create a brand-loyal lifetime smoker. The financial penalties of the PBR, by contrast, should make it clear that having one more smoker above its target level costs a firm well more than it can profit from that customer. That is, a firm needs to have a clear understanding that it will find it cheaper to have fewer customers than more of them (at least down to the target prevalence level). We will discuss penalty structures in more detail when we get to our PBR plan for childhood obesity.

We want to acknowledge that there are some possible problems with using PBR for tobacco control that mirror points already made. For example, what if tobacco companies reduce cigarette-smoking prevalence by enticing smokers to use chewing tobacco or some other form of smokeless tobacco? In fact, that would be a social gain, other things equal, because smokeless
tobacco is less dangerous. But it still is very dangerous, and so, perhaps the scheme could be more finely calibrated so that increased use of smokeless tobacco sold by a target firm would partially offset the cigarette reduction gain the enterprise could otherwise claim.

It is also quite possible that the tobacco industry would achieve reduced prevalence rates primarily by turning those who would otherwise be the lightest smokers into non-smokers, leaving heavy smokers (their best customers) largely untouched. Nonetheless, many who today are now light smokers will (absent some intervention like PBR) become heavy smokers later on, and presumably that would no longer happen if they become non-smokers. And anyway, even light smoking is dangerous (if less so), and hence real social gains occur through a sharp reduction in “social smokers.” In short, if the national smoking rate was cut to below 10% and yet those who smoked were almost entirely heavy smokers, that still would result in a substantial public health gain. Moreover, if this distribution of the prevalence reduction were thought a sufficiently serious problem, then the PBR goal could be set other than simply in terms of raw prevalence rates. For example, it might be couched partly in terms of the volume of cigarettes sold; or, perhaps, greater credits towards reaching the PBR goal might be earned by reducing the prevalence rate of heavy smokers as compared with the rate of light smokers. Of course, as the scheme’s outcome objective becomes more complex, other issues are likely to arise, especially in terms of accurate measurement.

Yet a different potential problem with this scheme is what to do about non-adult smokers. The prospect that firms would respond to an adult-oriented scheme by hooking lots more teens seems unlikely to us, since that would make their ability to achieve their adult goals much harder as more smoking teens begin to mature. Perhaps it would be simplest if the scheme applied to smoking rates among teens as well as adults, although that might counsel a lower overall target rate (or, possibly, prevalence rate targets set by age bands).

Finally, a wholly different problem is what to do with new entrants into the cigarette business. One possibility would be to forbid new entrants unless they bought a prevalence share from existing companies (which, in turn, would reduce further the prevalence target of the seller).

There are still more issues that would have to be resolved were PBR actually applied to cigarette smoking, but we think this is enough detail for now to show how PBR might work for this extremely important public health issue.

Whether there would ever be the political will to impose this sort of scheme on the tobacco companies is another matter that we will not explore here in detail, although we note a few points. First, in the 1990s, a scheme of this general sort, but applied only to youth smoking rates, was contained in the original so-called “global settlement” of the state attorneys general lawsuits
against the tobacco industry. That agreement, which was accepted by the cigarette companies, required Congressional approval that it failed to gain (although not because of the inclusion of this PBR provision). Alas, when the global settlement was replaced with the so-called Master Settlement Agreement (now implemented), the so-called “look back” feature (the PBR) was not included. But it might have been. Second, this same youth-smoking “look back” proposal was revived by the Department of Justice in its ongoing RICO-based lawsuit against the industry as one of the remedies it sought to have the trial judge impose on the defendants. Even more sweepingly, one of us published a brief proposal arguing that the judge in that case should impose on the industry the PBR scheme described above — that is, applying PBR to all smokers and not only to children.\footnote{Stephen D. Sugarman, “Give the Tobacco Companies Responsibility for Reducing Smoking Rates” NAT’L LAW J. February 7, 2005.} Alas, although the leading tobacco firms were excoriated by the judge who found them to be willful violators of RICO, she failed to impose any PBR remedy.\footnote{US v. Philip Morris (Final Opinion) August 17, 2006 available at http://www.tplp.org/doj and US v. Philip Morris (Order #1015 -- Final Judgment and Remedial Order) August 17, 2006 available at http://www.tplp.org/doj.} We mention these points simply to show that using PBR for tobacco control would hardly be unheard of.

As will soon be clear, applying PBR to force the food industry to take responsibility for reducing childhood obesity will be enormously more complicated than using PBR for tobacco control in the way just described. But, with the use of some imagination and creative design, we think we have developed an approach to childhood obesity that deserves careful consideration.

III. Justifying Applying PBR 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.\footnote{FOOD MARKETING TO CHILDREN AND YOUTH: THREAT OR OPPORTUNITY? a report of the INSTITUTE OF MEDICINE OF THE NATIONAL ACADEMIES ES-3 (prepublication copy, 2006) (hereinafter Institute of Medicine: Food Marketing).} The food and beverage industry is not like the tobacco industry in the sense that the products made by the latter kill when used as directed, whereas consuming food and beverages is necessary for survival.

Still, this year, each American will consume an average of approximately 13 pounds of candy, 16 pounds of chips, 15 quarts of ice cream, 13 pounds of chocolate, 23 pounds of pizza, 16 pounds of French fries, and 150 hamburgers.\footnote{See http://www.associatedcontent.com/article/6076/candy_the_trivia_and_history_of_our.ht} And while many people consume these products and

\footnote{Stephen D. Sugarman, “Give the Tobacco Companies Responsibility for Reducing Smoking Rates” NAT’L LAW J. February 7, 2005.}
are not obese, nonetheless all of these products contribute to the obesity problem.

Beyond simply putting food and beverages into the market, firms in this industry spend huge sums promoting the purchase of their products. While the total marketing investments by the food, beverage, and restaurant industries is not definitively known, “advertising alone accounts for more than $11 billion in industry expenditures in 2004, including $5 billion for television marketing.”59 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 advergames. 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.”60

Much of this advertising is directed towards children, and most of such advertising is for what is typically termed junk food. “Approximately half of all commercials during children’s television programming consists of branded foods and beverages that are disproportionately high in salt, high in calories (e.g., high fat, high sugar), and low in essential nutrients.”61

The food industry also wields a tremendous amount of political influence.62 “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).”63 Specific examples include “the National Cattlemen’s Beef Association [spending] $400,000, the National Pork Producers Council [spending] $200,000, and Kraft General Foods [spending] $120,000.”64 Nowadays, “most food corporations favor

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59 Institute of Medicine: Food Marketing, supra note _, at ES-3.
60 Id.
61 Id. at I-5; Mello, supra note _, 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.”).
62 “Soft drink producers also 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.” MARION NESTLE, FOOD POLITICS 193 (2002).
63 NESTLE, supra note _, at 102.
64 Id.
Republicans because members of this party are more likely than Democrats to protect and promote business interests.\textsuperscript{65}

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’s what a person chooses to consume?\textsuperscript{66}

As it turns out, however, more and more research is undermining the assumption that people freely choose what to eat, when to eat, and how much to eat.\textsuperscript{67} Put simply, the academic debate about food choice comprises two opposing models for decision making, “dispositionism” and “situationism.” Situationism is the school of thought that holds that a person’s choices and actions are generally influenced more by the surrounding circumstances and environmental forces (i.e., situation) than by that person’s character, taste, or preferences (i.e., disposition). In large part, the food industry’s advertising blitz, retail-chain ubiquity, and sharply increasing portion size\textsuperscript{68} create a “situation” in which food consumers’ autonomy is compromised. We conclude that this latter side of the debate has a lot going for it.

There is, in addition, the matter of what we view as food subsidies.\textsuperscript{69} These come in various forms. Certain farming interests are directly subsidized by the federal government 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 drunk by Americans today. We find it not

\begin{footnotesize}
\textsuperscript{65} Id. at 106.
\textsuperscript{66} See Mello, supra note _, 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.’”).
\textsuperscript{67} See generally Benforado, supra note _. Cf. Mello, supra note _, 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.”).
\textsuperscript{68} “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.” NESTLE, supra note _, at 26; see also French, supra note _, at 842S (noting that research “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”).
\textsuperscript{69} NESTLE, supra note _, 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.”).
\end{footnotesize}
at all surprising that there is a strong correlation between increased childhood obesity and increased consumption of sugar drinks by the young.\footnote{NESTLE, supra note _, at 200 (stating that “the 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”).}

Food manufacturers are also aided by free access to unpatented new ideas and technology that are produced by government supported research at universities. Again, this keeps food prices lower than they would otherwise be. On top of that, the social costs associated with obesity are not now internalized into the price of food. Some of these costs are externalized to society at large through the burden that the consequences of obesity put on the health care system.

To be sure, many of the costs of obesity are born by the obese themselves, 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 in an immediate sense threatened with the risks of their conduct. This is unlike, say, skiers who are clearly aware that they will quickly be injured or not. 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. While 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.

Even apart from the role of food companies in enticing children to eat too much, the basic fact remains that food is 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.\footnote{Compare Salinsky, supra note _, 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 Cutler, Glaeser & Shapiro, Why Have Americans Become More Obese?, at 32, available at http://www.economics.harvard.edu/faculty/deutler/papers/Why_Have_Americans_Become_More_Obese.pdf (“In this paper, we argue that this increase [in the rate of obesity] is primarily a result of increased food consumption, rather than reduced exercise.”).} But without caloric intake, you don’t become obese.\footnote{“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.” Salinsky, supra note _, at 5.} On this basis alone we think that requiring the food industry to address the problem of childhood obesity is morally justified -- 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 towards a PBR scheme aimed at employers, instead of relying on today’s regime that combines workers’ compensation and occupational health and safety regulation. To those whose first reaction is that

\footnote{70 NESTLE, supra note _, at 200 (stating that “the 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”).}

\footnote{71 Compare Salinsky, supra note _, 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 Cutler, Glaeser & Shapiro, Why Have Americans Become More Obese?, at 32, available at http://www.economics.harvard.edu/faculty/deutler/papers/Why_Have_Americans_Become_More_Obese.pdf (“In this paper, we argue that this increase [in the rate of obesity] is primarily a result of increased food consumption, rather than reduced exercise.”).}

\footnote{72 “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.” Salinsky, supra note _, at 5.}
food is only part of the story, 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 next turn. 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 PRB to the food industry.

IV. Some Initial Caveats about Applying PBR to the Food Industry

A. Multiple Sources: Obesity versus Smoking

In the federal government’s RICO case against tobacco companies described above, the Department of Justice proposed that the youth smoking rate be cut by 43%. To achieve this result, it then broke this target down by manufacturer, so that each manufacturer would be responsible for cutting its own customer base by 43%. Since all cigarettes are harmful and most youths regularly smoke a single brand of cigarettes, and since the PBR outcome target is smoking rates, there is a simple and direct connection between what a firm now does (and must change) and the specified social goal.

In the case of childhood obesity, the situation is much more complicated. 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 things happening at once, it seems implausible (at least today) 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.

73 Institute of Medicine, What Industry Can Do to Respond to Childhood Obesity, Fact Sheet, at 1, September 2006 (“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.”).

74 Institute of Medicine, Progress in Preventing Childhood Obesity: How Do We Measure Up? Preface, at pg. xi, September 2006 (“[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.”).
B. The Required Rate of Improvement (and Knowing the Best Way(s) of Achieving It): Obesity versus Pollution

We fear that both the rate at which we can realistically expect childhood obesity to be reduced and government’s ability to confirm that reduction are murkier than are the comparable PBR parameters for air pollution, for example. It is fairly simple for a factory to measure (and a government agency to check) how much pollution it is outputting immediately before and after implementing a pollution-reducing measure. This makes it fast and easy both for the polluting firm to decide whether the measures it has undertaken are worth retaining and for the regulator to determine whether the regulated party is meeting its target.

By contrast, strategies that firms try out for reducing obesity could well take rather longer 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. Indeed, we concede that the general question of expertise in reducing obesity rates is a difficult one for us.

Were PBR applied to tobacco, 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. While that same point might be made about food companies, for reasons already explained, this is not what food companies will need to do. Indeed, as will be made vivid below, 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 those they can call on for assistance) are indeed well situated to make a difference. Still, the upshot is that 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. These factors risk both genuine foot-dragging by the regulated parties, as well as public impatience and misperception that there is foot-dragging when there might well not be.

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75 See Drury, supra note _, at 260 (noting that “oil companies did, in fact, measure their emissions”).

76 Institute of Medicine: Preventing Childhood Obesity, at 244 (“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.”).
Our proposal offers what we think is a sensible resolution of this related set of uncertainties.
V. The Proposal

A. The General Goal: Reducing Childhood Obesity Prevalence by about 50%

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 way obesity is measured) being only an incidental consideration. Yet, since the health problems and social hardships associated with childhood obesity are well documented, obesity is reasonably straightforward to assess and obesity has been framed as a distinct public health problem, 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 our 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 is targeted at reducing 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 of their control, dictated by the offerings of school cafeterias, the contents of vending machines, and the constraints of parents’ hectic

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77 The Economics of Obesity: A Report on the Workshop Held at USDA’s Economic Research Service, by Philipson, Dai, Helmchen, & Variyam. E-FAN No. 04004, May 2004, at pg. i (“[H]igh health, social, and economic costs are known to be associated with obesity.”); NESTLE, supra note _, 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 _, 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.”).

78 Body Mass Index (BMI) is the standard measurement used to determine obesity. It is imperfect as applied to adults, though, because it doesn’t take age or muscle mass into account.
schedules and limited budgets. Children are also highly suggestible, making them particularly vulnerable to the food industry’s aggressive marketing strategies. At the same time, these 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 already obese or overweight as children). Anyway, there is good reason to hope that reducing childhood obesity will then spill over into longer-term reductions in obesity rates in adults. Finally, it is critical to appreciate that, over the course of a regulatory period, individuals will flow through the stage of being children. 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 (a matter we discuss further below). And given the not-altogether-happy experience with the “diet” industry, prevention may well be the most promising avenue to take.

3. Setting the Level of the Target -- Why a 50% Reduction?

The percentage of American children who are obese has tripled in the last thirty years, with the rate of obesity currently around 16%. We have decided that the goal of the regulation should be to bring the percentage closer to its 1970s level. More specifically, we seek to achieve a national childhood

79 “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.” Nestlé, supra note _, at 176.

80 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 Mello, supra note _, at 2607 (noting that anti-obesity “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 _, at 9 (“Regulatory bodies and the courts 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.”) (citing IOM, Food Marketing to Children and Youth: Threat or Opportunity?).

“Moving up in age targets, PepsiCo states explicitly that its strategy is to expand soft drink consumption among children aged 6-11.” Nestlé, supra note _, at 202.


82 Benforado, supra note _, at 1649, and sources cited supra, note 2.
obesity rate of 8% or less by the end of the first regulatory cycle (and a lower rate in any subsequent cycle). As we will explain in more detail below, this means reducing the number of obese schoolchildren by about 50%, from about 10 million to about 5 million.

There are several reasons to demand this level rather than some lower level, or the elimination of childhood obesity altogether. First, as explored earlier, as a general matter the level demanded by the PBR scheme must be 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 over-consumption and under-exertion; this goes to the capacity problem noted earlier. Third, the ubiquity of things like fast-food chains, junk-food advertising, and enormous portion size is a relatively recent phenomenon. 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, as already noted, we are talking about a first-round target only. Shortly, we will offer some theoretically based analysis for selecting the performance target.

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 our PBR scheme is limited to a subset of the food industry. As already mentioned, we concede that there are arguments to be made in favor of including altogether different industries in the regulation. For instance, the sedentary lifestyle many children lead may be said to be

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83 The rest of the paper assumes that we have chosen a target obesity rate of 8%. If that were altered, then other figures we present would also change.
84 French, supra note , 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).
85 “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.” NESTLE, supra note , at 21; Economics of Obesity, supra note , at 12 (Shin-Yi Chou, Michael Grossman, & Henry Saffer, An Economic Analysis of Adult Obesity: Results from the Behavioral Risk Factor Surveillance System) (emphasizing “the correlation between the growing number of restaurants per capita and increasing overweight”).
86 Throughout the article, food industry refers to the food and beverage industry.
enabled by television and video games. This suggests that PBR might seek to hold television networks and video game manufacturers partly responsible for reducing childhood obesity. Nonetheless, we believe that the regulatory scheme will be more manageable and cohesive if it is limited to the food industry, at least for the first cycle of regulation. And as stated earlier, limiting the target in this way is another reason for not demanding the virtual elimination of childhood obesity.

2. Defining “Bad food”

Second, our proposal does not apply to providers of all food products. Rather, within the food industry, the set of foods whose providers are subject to regulation is determined 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 goal is to initially separate out 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 (a) more than 30% of its calories come from fat; or (b) more than 40% of its calories come from sugar.

The fat and sugar threshold levels making up the nutritional prong are partly based on the standards enunciated in the Department of Health and Human Services and Department of Agriculture’s Dietary Guidelines for Americans 2005. Other public health advocates have specified nutritional

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87 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 _, at 180-81; Economics of Obesity, supra note _, at 9 (Darius Lakdawalla & Tomas Philipson, The Growth in Obesity and Technological Change) (noting that “[l]eisure issues are particularly important for understanding the growth in child obesity that may be due to technological innovations like computers and television”).

88 “[T]he number of hours spent watching television is one of the best predictors of overweight[.]” Nestle, supra note _, at 8.

89 “[S]urveys do not report enough of a decrease in activity levels to account for the current rising rates of obesity. This gap leaves overeating as the most probable cause of excessive weight gain.” Nestle, supra note _, at 8. But see, Nathan et al, “An Australian Childhood Obesity Summit: the role of data and evidence in ‘public’ policy making” 2 Australia and New Zealand Health Policy 17 (2005) (on line).

standards that differ slightly but fall in the same general range. For example, the Center for Science in the Public Interest defines "foods of poor nutritional quality" as those meeting one or more criteria of badness, such as having more than 35% of calories from fat, more than 35% added sugar by weight, more than 10% calories from saturated and trans fat, or more than certain sodium thresholds. However, foods meeting one of more of these criteria may be redeemed if they contain enough fruit, whole grains, or vitamins. 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, fruit-based drinks with less than 50% real fruit juice or that contain added sweeteners, caffeinated drinks, and high-fat milk.

The thresholds we propose (30% for fat, 40% 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 doesn’t account for sodium and other nutrients because our analysis is targeted towards the key nutritional components that promote obesity. Second, our formula works for food and beverages at the same time, since it is based on percent of calories from sugar rather than added weight. Third, because (as explained below) 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 get 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, a decision must be made using the best information currently available. If the thresholds of the nutritional prong become outdated due to scientific advances, the thresholds can be updated for a subsequent regulatory cycle.

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See also USDA Food Guide Pyramid, at http://www.mypyramid.gov/.
92 See id.
93 See id.
94 To understand the distinction, notice that, although sugar provides nearly all the calories of soda, it makes up less than 10% 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.
95 Institute of Medicine, Progress in Preventing Childhood Obesity: How Do We Measure Up? Preface, at pg. xii, September 2006 (“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.”).
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 (a) enjoys significant consumption by children; or (b) is significantly marketed to children. This means that unhealthy products not aimed at children or much consumed by children are completely excluded from our regime.

The concept of “marketing to children” includes marketing that is intended to reach parents in order to encourage child consumption or family consumption. Examples include Jiff’s “Choosy Moms Choose Jiff” and KFC’s “Bring back dinner,” 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.

Firms might argue that it is unfair for their product to be included simply because they significantly market to children if, in fact, there currently is no proof of significant consumption by children. Often, when one measures something, one is really using the measurement as a proxy for some other information. We feel that it is fair to use the marketing measurement for several reasons. First, most of the time it will be a very good proxy and firms that significantly market towards children are indeed enjoying significant consumption by children. While there may be a rare instance of non-correlation, the cost of gathering perfect information outweighs the benefits of

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96 “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.” NESTLE, supra note _, at 176. “The average child sees 10,000 television food advertisements each year, with 95% for fast food, soft drinks, candy, and sugared cereal.” Benforado, supra note _, at 1700.

97 “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. . . . Overall, children aged 6-19 years were thought to have influenced a staggering $485 billion in purchase decisions in 1999.” NESTLE, supra note _, at 176; “One study found that children observed in a grocery store with their parents successfully instigated purchases 45 percent of the time.” Salinsky, supra note _, at 7.

98 For an analysis of the “doubtful future for an absolute ban on [fast-food] advertisements targeting children”, see Munger, supra note _, 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, supra note _, at 2602 (discussing similarities and differences between food and tobacco).
eliminating imperfections. The key point is that, under the second prong, a product can be included in the regulatory scheme without having to specifically measure its actual consumption by children.

Beyond that, we believe that using the alternative test under the marketing prong is justified 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 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 towards children in the first place.

Schools are also exempt. First of all, there are already other regulations both in place and afoot governing schools, school vending machines, and the nutritional content of school lunches. 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 anyway, as detailed below.

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 the retailer of the product. That party generally has the most control over both the composition of the food and 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 mini-market (like 7-11), the rule would work

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99 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.

100 Institute of Medicine: Preventing Childhood Obesity, supra note _, at 239-44.
in this 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 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, such as McDonald’s, McDonald’s 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 branded provider is also covered by the plan. After all, sweetened beverages are generally requested by customers, and marketed by restaurants, by their brand name. Moreover, whereas the composition of the fries and burgers is under McDonald’s’ direct control, that of the beverage is under Coke’s direct control.

Although we do not have precise data now available, 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, perhaps 80% of the food makers/sellers could be excluded who would account for only 20% of sales. Moreover, since some of these sellers would be producers whose market share would become the responsibility of large retailers (as noted above), that implies, if the preceding estimate is correct, that even less than 20% of “bad” food would be excluded from our plan.

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 comes in deciding how to allocate, measure, and enforce obesity-reduction targets to those non-exempt firms who have been identified on the basis that their products are defined as unhealthy and are substantially consumed by (or marketed to) children.

a. Share of Bad Calories

We have concluded that a firm’s share of the burden should not be based merely on a firm’s revenue from the products that satisfy the two-pronged test, 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.
Here is the mathematical derivation of the formula we propose for sharing responsibility among non-exempt 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. Firm $X_i$’s total raw score is found 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, it is likely that firms are already keeping track of such data. 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. However, once a firm’s product passes this test, 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. As already explained, these are reasonably hard numbers that require no estimates, surveys, or projections. If the regulator must determine how much of the product is ending up in who’s hands, an element of unreliability is introduced, and with it, an opportunity for manipulation and short-changing of responsibility. 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.

a. Illustrations

To roughly illustrate how our proposal would work, we provide here some examples, the data for which strikes us as approximately correct. The first table below shows the extent to which these key “bad” food items exceed the thresholds we propose of 30% fat and 40% sugar and also shows the average American annual caloric intake of each of these products. The table also gives a “badness index” for these foods, assuming for these purposes that these are the only 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.

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101 For example, in the Phillip Morris case, the government defines youth smoking in terms of daily smoking. The Interveners’ brief objects to this, stating that youth smoking should be based on a 30-day measure. 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.”
Column A = Food categories  
Column B = Percent of calories from fat (F) or sugar (S)  
Column C = Percent of calories that exceed the nutritional thresholds of 30% fat and 40% sugar  
Column D = Annual per-capita caloric intake for each food category.  
Column E = Annual per-capita excess calories consumed (Column C multiplied by Column D)  
Column F = Badness index, or percent of responsibility for obesity problem (Column E entry divided by Total for Column E)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candy (non choc.)</td>
<td>60(S)</td>
<td>20</td>
<td>23,369</td>
<td>4,674</td>
<td>5</td>
</tr>
<tr>
<td>Chips</td>
<td>62(F)</td>
<td>32</td>
<td>39,680</td>
<td>12,698</td>
<td>14</td>
</tr>
<tr>
<td>Ice cream</td>
<td>56(F)</td>
<td>26</td>
<td>19,200</td>
<td>4,992</td>
<td>5</td>
</tr>
<tr>
<td>Chocolate</td>
<td>36(S)</td>
<td>0</td>
<td>53,416</td>
<td>8,026</td>
<td>9</td>
</tr>
<tr>
<td>Pizza</td>
<td>37(F)</td>
<td>7</td>
<td>29,007</td>
<td>2,030</td>
<td>2</td>
</tr>
<tr>
<td>Hamburger</td>
<td>47(F)</td>
<td>17</td>
<td>76,800</td>
<td>13,056</td>
<td>14</td>
</tr>
<tr>
<td>Fried Chicken</td>
<td>46(F)</td>
<td>16</td>
<td>4,004</td>
<td>641</td>
<td>1</td>
</tr>
<tr>
<td>Cheese</td>
<td>74(F)</td>
<td>44</td>
<td>18,240</td>
<td>8,026</td>
<td>9</td>
</tr>
<tr>
<td>Soft Drinks</td>
<td>97(S)</td>
<td>57</td>
<td>57,540</td>
<td>32,798</td>
<td>36</td>
</tr>
<tr>
<td>French Fries</td>
<td>48(F)</td>
<td>18</td>
<td>23,177</td>
<td>4,172</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>90,941</strong></td>
<td><strong>100%</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

The second table, below, illustrates some market shares of well known firms and the corresponding share of the obesity problem that would be assigned to them under our proposal, again assuming for these purposes that the only covered products would be the ten illustrated here.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Market Share</th>
<th>Obesity Reduction Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coca-Cola</td>
<td>43% soft drinks</td>
<td>15.5</td>
</tr>
<tr>
<td>Dreyers</td>
<td>23% ice cream</td>
<td>1.3</td>
</tr>
<tr>
<td>Burger-King</td>
<td>18% burgers</td>
<td>2.6</td>
</tr>
</tbody>
</table>

These percentages are larger than those that would actually be assigned by our program because many other “bad” products would also be reached by the regulation. Yet, it gives some sense of the relative responsibilities that
would go to well known national firms, 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% of America’s childhood obesity problem. What do we do now? We think it would be unworkable to suggest, for example, that Acme be held responsible for getting each obese child in America 5% of the way towards non-obesity, 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, of the total number of fewer children who are to be obese, Acme be responsible for 5% of that target. More precisely, as noted earlier, 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% 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 would be deemed obese or not based on the child’s body-mass index, then at the 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 who are obese 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, our scheme could be modified so as to reward significant improvement short of achieving non-obese status. Suppose Acme is assigned responsibility for an obese child who needs to shed X pounds in order to qualify as non-obese. One possible solution would be that, if Acme helps him lose at least half those pounds, then Acme might be given a ½-unit of credit. In this respect, although Acme would be 100% responsible for the status of the child, it would not necessarily have to cure the child 100% in order to receive some credit.

This solution might be thought a reasonable compromise between competing interests. On the one hand, it is probably quite difficult to get an

\footnote{\textsuperscript{102} “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 the injury to the population as a whole.” Alderman & Daynard, supra note \_, at 86 (suggesting 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).}
already extremely obese child all the way down to the non-obesity threshold. Yet, we don’t want firms completely to 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, we don’t want to give a firm full credit for getting only half-way to the plan’s objective, because we want to preserve a firm’s incentive to help the child fully achieve his weight-loss goal.

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% of the obese children, it could be given responsibility for 5% of the excess weight of all the children covered by the plan. Under this approach, Acme could get 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 do we 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, since the primary functions of schooling are education and socialization, the school setting is potentially a good place to re-educate and re-socialize 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. Put simply, 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 fewer.

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% 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. Second, by focusing on these schools, firms may be able to take advantage of economies of scale, since every measure they implement will reach proportionately more afflicted children. Moreover, by focusing the program only on the subset of schools with higher obesity rates, this means that to achieve compliance, the obesity rates in those participating schools as a group will have to come down further than they would were some of the 5 million fewer obese schoolchildren to come from schools that already have relatively low rates. Finally, creating a threshold obesity-rate requirement for schools to be covered by the program helps avoid one otherwise 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% 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

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103 “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, Anne-Marie G. Harris, Toni Broaddus & William M. Boyd III, *Regulating Target Marketing and Other Race-based Advertising Practices*, 8 Mich. J. Race & L. 335, 356, 357-58 (2003).
problem is especially critical for low-income children\textsuperscript{104} and children of color.\textsuperscript{105} So, analogous to the concern that PBR in the pollution field not leave us with toxic “hot spots” in low income and minority communities, and analogous to 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 the benefits of PBR in the field of childhood obesity will be felt primarily in upper income areas. Put differently, by excluding schools like Madison from the plan, this assures that participating firm resources will be disproportionately made available to children in low-income and minority communities.\textsuperscript{106}

Moreover, it is also possible that by having all schools in the program some participating firms would be able to meet their targets too easily – a problem (noted earlier) that is said by some to exist with using PBR in the RECLAIM program in the pollution field and one which we seek to avoid in applying PBR to childhood obesity. Returning to the Madison Elementary School example, because there is unlikely to be a pervasive, community-wide problem with adult obesity around Madison, Acme will probably have to battle few counterproductive forces in its attempt to reduce the obesity rate of

\textsuperscript{104} “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.” \textsc{Nestle, supra note _}, at 27; Joanne F. Guthrie, Biing-Hwan Lin, Jane Reed & Hayden Stewart, \textit{Understanding Economic and Behavioral Influences on Fruit and Vegetable Choices}, Amber Waves, at *3 (April 2005), available at \url{http://www.ers.usda.gov/AmberWaves/April05/Features/FruitAndVegChoices.htm} (“ERS researchers examining the at-home fruit and vegetable purchases by households over a 2-week period in 2000 found that low-income households spent $3.59 per person per week on fruits and vegetables. Nineteen percent of poor households purchased no fruits and vegetables at all. By contrast, higher income households spent $5.02 per person per week on produce, with only about 9 percent of households buying no fruits and vegetables. Moreover, small increases in income were likely to induce greater fruit and vegetable spending among higher income households, but had no impact on spending by low-income households. Among all income levels, education had a much greater impact on household produce purchases than did income. Controlling for income, college-educated households had the highest level of per capita fruit and vegetable expenditures ($5.99 per person per week versus $4.25 for households headed by a high-school-only graduate).”).

\textsuperscript{105} “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.” \textsc{Nestle, supra note _}, at 175; \textit{see also} Economics of Obesity, \textsc{supra note _}, at 15-16 (Patricia M. Anderson, Kristin F. Butcher, & Phillip B. Levine, \textit{Maternal Employment and Childhood Obesity}) (noting that “Black children are significantly more likely to be overweight than other groups” and that “results clearly show that Black and Hispanic children are heavier”).

\textsuperscript{106} “Both [Coca-Cola and PepsiCo], for example, aggressively target African-American and Hispanic consumers with ‘guerilla-marketing tactics’ to distribute products in urban neighborhoods.” \textsc{Nestle, supra note _}, at 201.
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. \textsuperscript{107} 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 already obese (or potentially obese) children are already in a position to exert substantial effort and attention to changing the situation of their own child.

To be sure, it is also possible that 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 didn’t 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.

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, it is likely that many lower-income parents are simply 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 re-conceptualize the obesity crisis as principally a food-industry problem rather than a parenting problem. In sum, by forcing firms to deal only with schools with obesity rates of 8% or more, they are more likely to have to contend with children whose weight issues are not likely to be easily solved with cheap measures largely carried out by parents.

We recognize that a potentially unintended side effect of focusing the regulation entirely on reducing the obesity rates in schools that currently have high rates could be an increase in the obesity rate in schools like Madison that are not covered by the regulation. Were that to happen, it would undercut success that firms had in the schools on which they concentrated. 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, it is more likely that the rates in non-participating schools would also go down. For example, those schools might well voluntarily adopt programs that they see as working to reduce obesity rates in participating schools.

\textsuperscript{107} But cf. Economics of Obesity, supra note , at 15 (Patricia M. Anderson, Kristin F. Butcher, & Phillip B. Levine, Maternal Employment and Childhood Obesity) (“[A mother] [w]orking more hours per week only has a deleterious effect on the weight of children in higher socioeconomic status households.”).
Notice now that the way we have structured our program means that participating firms do not need to get obesity rates in all of the participating schools down to 8% to achieve full compliance. First, as already noted, since 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 gains 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 something around 10% (as a rough estimate). Put differently, since the overall national goal of 8% includes the children in the non-participating schools whose rates are already under 8% (and, as noted above, we assume, will remain so), the average rate in participating schools can be higher.

Here is a numerical example that 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 non-participating schools in which, say, 1 million are obese. This puts the obesity rate at 5% in the non-participating schools, over 20% in the participating schools, and just over 16% overall (today’s 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% 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 terrific headway had been made in turning around the childhood obesity problem.

Note also that, based on these numbers, a firm like Acme would be assigned schools with somewhat 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% of 40 million) of whom somewhat more than 20% were obese at the program’s inception.

3. School Assignment Formula

As explained already, (a) the performance goal of our plan is that if all firms fully satisfy their obligations, the resulting national obesity rate in schoolchildren will be 8%, and (b) only schools whose obesity rate is currently above 8% will be assigned to participating firms. Here is a mathematical presentation of the derivation of the school-set assignment.

Let \( x \) be the proportion of ineligible schools. That is, \( x \) is the fraction consisting of the number of ineligible schools divided by the total number of schools.

Then \( 1-x \) is the proportion of eligible 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%.

The values of $x$ and $y$ are current data, and thus are ascertainable. We want to find out 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:

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

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

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

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

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

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 $S(Acme)$ is Acme’s share of the obesity problem, derived supra.

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%. One reason this is allowed 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 too much focus on direct parental acts that are only practical for primarily well-to-do families. Second, once a school is in the program, we don’t 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, since they can send their nutritional and fitness experts, and other personnel associated with the anti-obesity 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 anti-obesity campaign.\(^{108}\) If it is assigned a geographically compact set of schools, it can use local media to get its message out. 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 as well as those who are. 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 even without having contributed to the result.

There is another way that clustering can be used to mitigate the free-rider problem. In our proposal we also vertically cluster schools. That is, the goal is to assign schools so that the elementary and middle schools that feed into particular high schools are all given to the same firm.\(^{109}\) 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 won’t reap the rewards when these 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 occurred, 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 that are only experienced locally are also unlikely to affect the firm. This is because such dramatic population changes are most likely to occur when one school in a district closes down and neighboring schools are forced to absorb the displaced students. Because a geographical cluster of schools is assigned to a given firm, in the general case both the closed-down school and the absorbing schools would be assigned to the same firm, and so the firm experiences no

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108 This is currently being done by various agricultural interests, as well as Kaiser Permanente.

109 Obviously, this implicates geographic clustering as well, since feeder schools are in the same district as the school into which they feed.
change. As for the changing character of the students in the schools assigned to a firm, this is also unlikely to change dramatically within ten years. However, if such changes do occur, they are immaterial as far as the scheme is concerned because a firm is given no guarantees that they will get to work with a certain “type” of student population.

One additional point must be acknowledged here, although more attention will be given to it below. Without certain sorts of cooperation by 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. Put simply, 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, even if those were effective changes 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 its credits will be earned.

F. Timeline for 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 part (b) of the marketing prong 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 part (a) of the marketing prong due to significant product consumption by children, it is unlikely that the firm could reverse this in the span of a year. In fact, the fastest way to discourage child consumption is probably to sufficiently change the nutritional composition of the product as to be out from under the scheme in any event.

A second purpose of the phase-in period is to allow the regulators to determine which firms are covered, what is each firm’s share of the regulatory target, 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 as suggested above).

One year after its schools have been assigned to it, 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. But for reasons already discussed, no obesity reduction would yet be required as an interim matter.

To avoid heavy penalties, it is only by the end of the fifth year after it has been assigned its set of schools that 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 we have been using). Throughout the period right up 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 take some time to materialize. However, at the five-year mark, Acme will begin to be held 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 10.

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 later) for each child by which the target number is missed. Moreover, its next year’s target of .6N remains in force. Thus, if by that next year, Acme has not reached its .6N goal, 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, in order 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.

In this regard, our penalty scheme is different from that proposed by Dr. Jonathan Gruber when he recommended that a PBR scheme be imposed on cigarette makers as a remedy in the federal government’s RICO lawsuit against the tobacco industry. In Gruber’s plan, at the end of the first year

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110 Perhaps we can consider refunding penalties incurred in years 6-9 if the firm cures N obese children by year 10, 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 be used 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 cost?

111 Perhaps with an extra penalty at the end of the program for falling significantly short of the target.

the firm pays a per-smoker fee for each youth it should have by then prevented from smoking but didn’t. The fee is meant to be a disgorgement of the income stream of profits that would have accrued for the firm if this youth were to remain a life-long smoker. To avoid “double counting,” 113 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. 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. Yet, we find it troubling that his scheme effectively allows a firm to keep a teen smoker hooked once it has paid up for him.

To give a numerical example, suppose Phillip 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 Phillip 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 Phillip 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 its 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 from how many smokers there are 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% 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 a one-time penalty is paid for failing to meet an interim target. Put differently, in our approach the overall target does not get undermined or eroded by the firm’s own early failures or interim willingness to pay penalties in exchange for shaking off the responsibility for solving the problem. (Of course, the difference between the two approaches needs to be taken into account in deciding on the amount of the penalties, as we discuss below.)

A second point is that, under our plan, any penalties that are paid are meant to be put toward covering the societal costs associated with obesity, rather than toward obesity prevention measures. Put differently, the penalty

113 Gruber, supra note _, at 10-11.
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, but also it means that firms that fail early in the process may well 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 rather than efforts of the firm.

2. Subsequent Cycles

After the initial cycle, additional cycles may be thought necessary in order to more adequately deal with the problem of childhood obesity – say, to reduce the national rate to 4%, or perhaps even to maintain an 8% 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 one year before the end of the initial regulation cycle, firms that are potentially newly eligible for inclusion in the next cycle period be notified so that they may take steps to exclude themselves from the reach of the regulation. As per the initial cycle, this can be done either 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 too small to be included at the time the initial regulation was enacted, but subsequently grows enough so that, within the first cycle, it attains a status that would have qualified it for inclusion, it will nonetheless remain outside the scheme for the first cycle. But, the now-qualifying firm will be included in that next cycle. So, too, a firm’s reduced sales during the first cycle might properly warrant its exclusion from the second cycle. Yet, in order 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. Mid-cycle Modifications

Because the length of the regulation is 10 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. For example, some might feel that the nutritional standards in the 2-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 mid-cycle 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 towards unfairly evading their share of the responsibility for obesity.

This brings us to the second argument against mid-cycle 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 mid-cycle 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 where the government either directly implements this technology to solve the childhood obesity problem, or requires firms to include it as part of their anti-obesity efforts. In other words, the more we think we 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 towards command-and-control regulation.

This instinct is misguided for several reasons. First, we don’t want the government to 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 the firms that bear a large share of the responsibility for creating the problem are effectively excused from the responsibility of solving it by free-riding on complementary government efforts.
Moreover, we also should not force all firms to adopt the same technology as part of their anti-obesity 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, the potential for beneficial information pooling from a wide variety of strategies is best preserved by sticking to the more open-ended performance-based system rather than incorporating command-and-control.

At the same time, we needn’t worry that a true gem of an answer to the obesity problem will fall by the wayside simply because the government doesn’t force firms to implement it. So long as there is a program 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, we can trust that a truly great technology will indeed catch on among firms, while a faddish panacea will not be forced upon firms and the public in a rush of premature enthusiasm.

Of course, this argument against mandating new technology applies not only to mid-cycle 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 while 10 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 creation 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. And, in any event, responsibility during the first cycle is importantly imposed based on sales made at the start of—and, in a sense, prior to—the scheme’s adoption.

G. Measuring Compliance

It is important for the regulator to be regularly apprised of the progress that firms are making toward their ultimate performance target. First, the regulator must be presented with the firm’s initial plan at the end of year 1.

Subsequently, the regulator must be informed as to what progress the firm has made at the yearly milestones between years 5 and 10. Obviously, this information is necessary in order to assess penalties should a firm fail to meet its target. However, firms themselves will probably be keeping track of much more data than this, by taking frequent measurements of the children in their charge. This is because a firm will want to know which methods are working and which are not, with plenty of opportunity to change course if results are not forthcoming. Since firms will already be spending resources gathering the data the regulator needs, it is advantageous to rely primarily on the data gathered by firms. However, this advantage to the regulator is somewhat compromised by the danger that a firm will manipulate or misreport its data. 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 firm will be subjected to additional, very substantial penalties.

H. The Economics of Penalty and Target Choices

So far we have assumed that a national childhood obesity rate if 8% — a 50% reduction in the current rate — is a reasonable target for 10 years after the date the scheme goes into effect. And we have assumed that firms can be fairly threatened with sensible penalties at the ends of years 5 through 10 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. This social cost includes the cost of health care,\textsuperscript{114} lower future wages,\textsuperscript{115} etc.\textsuperscript{116} 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. This is because there will be children who are more difficult to cure (or to prevent from becoming obese), and so firms will have to implement more expensive and creative methods in order to reach more of them. Thus, the social cost function and the prevention cost function are likely to look like the diagram below.\textsuperscript{117}

The x-coordinate of the point at which the social cost and prevention cost functions intersect gives the ideal level of performance. This is because, for each child below this level, there is still money to be saved by preventing rather than bearing the social cost, since this portion of the prevention cost

\textsuperscript{114} “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.” \textit{NESTLE, supra note}, at 7.

\textsuperscript{115} Economics of Obesity, \textit{supra note}, at 18 (John Cawley, The Labor Market Impacts of Obesity) (“For each face/ethnic group of females, both BMI and weight in pounds have negative and statistically significant effects on wages.”)


\textsuperscript{117} 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 him and society bear the associated costs, than to expend the resources necessary to prevent or cure obesity in that child. The chance of this being true is negligible, and so we may disregard such an arrangement of the curves. This is because data exists for the adult obesity problem that indicates that the curves do intersect. Consider those (few) people who experience long-term success with programs like Jenny Craig or Weight Watchers. The 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 actually 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.
curve lies below the social cost curve. Conversely, for each child above this level, it is more efficient to bear the social costs than to prevent or cure the obesity, since this portion of the prevention cost curve lies above the social cost curve.

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 discussed above. In this way, a participating firm would have a clear financial incentive to efficiently reduce obesity rates, and when it achieved the efficient level of reduction, it would find itself not facing any penalties.

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118 If the marginal social cost function is not constant, we can use the average social cost as the aspirational value of the per-child penalty.

119 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 this 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 this child’s consumption of junk food over the course of the year.

Of course, since the child consumes a variety of products, some of which are not made by Acme, Acme did not literally reap profits from this child for all of his consumption. However, we 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.

However, 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, where cleaning up the cost an industry imposes on society is the main objective.
However, in reality, we do not have our hands on these functions. Our 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 don’t know whether means exist or can be readily developed to achieve that degree of reduction at a reasonable cost (or, on the other hand, 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 non-compliance.

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. In that case, we get the following diagram.

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, is economically inefficient for society to spend what is necessary with respect to 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 we can expect the firm to shoot for is the level at which the marginal prevention cost equals the penalty. This is because the prevention cost function is increasing, and so for all children beyond this level, it will be more expensive to cure than to pay the per-child penalty. Hence, we assume that 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.”

4. Effects of a Low Target

Refer to the diagram in section 2. Suppose we keep the penalty high compared to the social cost, but we now lower the target. 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 level of performance we can expect from the firm.

Now refer to the diagram in section 3. Suppose we keep the penalty low compared to the social cost, but we now also lower the target. 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. However, if we continue to slide the target down 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 Max(P,T).

\[
Max(P,T) = \min\{T, \langle x \mid PBR(x) = P \rangle \}
\]

The expression \(< x \mid PBR(x) = P >\) 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 \( < x \mid PBR(x) = P > \), 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 \( < x \mid PBR(x) = P > \) 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 we 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. In a negligence system, the law aims to require firms to do that which is reasonable, and no more. From the “law and economics” view, this means doing only that which is economically efficient, but no more. By contrast, a strict liability system often demands that firms be responsible for harms that cannot (at present) be efficiently avoided.

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—we prefer to shift the cost of injury (i.e., obesity) onto manufacturers because they are better able to absorb this cost. 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 both the penalty and target in our performance-based regulation should be placed high so as to promote a high enough level of performance on the part of the firms, even if it 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 we knew in advance what the social cost and prevention cost functions were, we would be able to set the penalty and target closer to the ideal. We already observed that 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 (1) the cost of performance is less than the cost of the penalty, and (2) 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 regulator 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 discussed supra, we feel the penalty should be assessed on a per-child annual basis rather than the per-child lifetime basis used in Dr. Gruber’s proposed remedy for tobacco. However, the actual amount of the penalty should be computed after evaluating the available data on the social cost of obesity. The data will be imperfect, but they will give a good starting point.

I. Should a “ Tradable Permits” Feature be Included?

Absent a “tradable permits” approach, at the end of year 5, if it is to avoid penalties, Acme, for example, would only be permitted to have, in the schools for which it is responsible, 125,000 fewer obese children than the it 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 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 of this approach is meant to be that firms that are more efficient at the obesity reduction effort will carry larger loads so that
society can achieve the 8% overall goal at the lowest cost. Put differently, if Acme realizes that it is not very good at obesity reduction, it might still escape the higher cost of penalties by buying up reduced obesity elsewhere from those regulated firms who are better at it.

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, it 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 where they have been assigned by the program. With the right amount of cash to make the deal work for both sides, under a tradable permit scheme firms might swap the children on whom they focus. Acme, for example, might wish to achieve its obesity-reduction target in Kentucky even though it had been assigned schools in Oregon. But if a deal could be struck with, say, Bell Corporation that had been given 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 objection is likely to be 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, even 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” discussed above that are said to plague Los Angeles’s RECLAIM program. Finally, many will want the assigned firms to have to stick 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 it, see below\(^{120}\)). And while we admit that firms are quite unlikely to slough off communities with which they have developed good working relationships, we fear that schools with staffs and parents who are better organized and savvier 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 at least some regulated firms will try to convince their assigned schools to take a very active and direct role in the obesity reduction campaign. But, of course, schools as institutions themselves are very different

\(^{120}\) 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.
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 it were true that reduced obesity rates also went 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 this is not a “deal breaker” feature so far as we are concerned.

J. How to Proceed

Many public health advocates for reduced childhood obesity instinctively think first of national solutions spearheaded by the federal government.121 Think of a changed national school lunch program, controls on TV ads aimed at children,122 and a nationwide requirement that fast food outlets clearly disclose to buyers nutritional and calorie information about the items they are selling.123 But, experience with the tobacco control movement suggests that greater health gains might occur through policy reform at the state, or even local, level.124 And indeed several obesity reduction strategies are already being focused locally.125 Think of efforts to rid schools of bad

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121 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___, at 84.

122 “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 prefers the First Amendment interests of advertisers over the health and safety goals of government.” David Vladeck, Gerald Weber & Lawrence O. Gostin, Using Law for Community Health: 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).

123 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) (proposing legislation under which “restaurants 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”).

124 See Alderman & Daynard, supra note___, at Abstract (“This paper demonstrates that although legislation would be a preferable solution, lessons from the tobacco wars suggest that effective national legislation is unlikely at the present time.”); “Local 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.

125 See Mello, supra note___, at 2603 (“As of 2000, 19 states 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...
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, most of the same national enterprises would dominate the list of those regulated in California as would be targeted by a countrywide plan. 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.

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 difficulty to deal with the possibility that impacts of regulatory reform in some states are spilling over into others.

Whether states today have the regulatory capacity to implement PBR is another matter, although with adequate money for administration, we don’t see this as an insurmountable hurdle in states like California. There, for example, a reasonably well funded and effective tobacco control network has been created by the state Department of Health Services.126

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).127 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 is each firm’s share of the childhood obesity-reduction target, what precise schools are the responsibility of each, whether firms are meeting their targets, what the proper penalties for non-compliance are, and enforcing those penalties.

difficulties administrating them (for example, some states had difficulty determining which foods met the definition of a taxable item)."

126 See http://www.dhs.ca.gov/tobacco/
127 See NESTLE, supra note __, at 99-102.
VI. Politics

A. Reframing the Issue

One of the goals of the PBR approach to childhood obesity is to frame this as a problem for which the food industry is importantly responsible, and not a problem for which families alone are responsible. A good analogy is how NCLB framed low educational 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 we currently know 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 don’t 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 bi-partisan 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

128 See Nestle, supra note __, at 183 (praising the American Academy of Pediatrics for its allocation of responsibility: “The academy recognized that the ultimate control of children’s television viewing rests with parents and caretakers, but it also called on industry and government to take responsibility for what gets aired.”).
this or that specific thing. Our plan has something of the feel of a class action against a group of defendants, and yet the litigation features have been taken out; 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 preventing our proposal from being adopted, or if adopted, then in an ineffectual form. Actions here are likely to begin with 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 are also likely to claim that PBR is simply impractical, regardless of its theoretical appeal. Yet, as already noted, some firms with a longer horizon may come to appreciate that PBR is a better regime with which to live if the alternative is to be 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 non-compliance, 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. Clearly 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.

VII. How the Food Industry Would Implement PBR

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.

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 under-nourished and/or excessively skinny. If a firm proceeds to implement a method that has been disapproved by the regulator, 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.

In order 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 engage in random audits of the regulated firms, and engage the cooperation of the participating schools (say, through whistleblower rewards) in policing socially unacceptable implementation measures. And, the regulatory agency might also engage in affirmative educational efforts intended 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” in order 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 the children’s privacy will be invaded. Some people may object that parental authority will be diminished. 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 since it is supposed to reduce childhood obesity by the end of year 5 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 Acme itself 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 industry\footnote{Or, one spun off from the existing weight-loss industry.} 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, the obesity consultants are likely to be turned to by firms 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, how much 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’s singular goal may put it in a better position than the food firm to accomplish that goal, since the latter would have the dual conflicting goals of obesity prevention and product sales. 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, we then risk 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. Simply put, whenever a consulting firm represents more than one food firm, it might represent two firms that are business rivals and this could cause some difficulty for the consulting firm. Yet, we do not find this prospect terribly bothersome because food firms are already well 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’s obesity-reduction target is not met.

Whether firms “buy” or “make,” quite different strategies are likely to be employed in involving the assigned schools themselves in the firm’s implementation plan. Some firms might only deal with the schools in what

\[\text{130} \text{ Of course, the food-industry firm that farms out the task still has a goal of selling product, which may be in tension with the firm’s second goal of actually getting its money’s worth from the consulting firm. That is, the firm still wants to sell product and for obesity to be prevented. However, upon farming out the job, the tension between the two goals is attenuated because the goal-pursuers are separated. Therefore, neither will be paralyzed in pursuing their primary goal due to a fear of adversely impacting their secondary goal.}\]

\[\text{131} \text{ For instance, since a person may eat a little “bad” food, it is conceivable that a consultant hired by Mars, Inc. could advise children to simply cut salty snacks out of their diet (i.e., M&Ms once in a while are okay). Conversely, a consultant hired by Frito-Lay could advise children to avoid sweets.}\]
we will assume would be their assigned role of making sure that their enrolled children are measured 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 cooperation of their schools, which might come from providing resources to schools, or perhaps simply by showing schools that educational gains can be more easily achieved 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. However, across a population, it may be that preventing the onset of obesity from this point onward is 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 17-year-old, and Bobby, a slender 8-year-old with a higher-than-average likelihood of becoming obese later on. 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 their obesity rate, as success with them will be ignored when the penalty-imposing time comes.)

Put generally, whenever resources are finite, choices of course 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 rather than the substantially obese. While all of this has distributional consequences that might bother some, from our perspective the key point remains that were the
plan to succeed and the childhood obesity rate cut in half in 10 years, this 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 PBR 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 over-consumption.132 Our proposal, in a sense, affords firms an opportunity to confirm this theory by coming up with creative solutions to the obesity problem that don’t 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 being selected as one of the best places for employees to work.

On a PR 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 his lumps. By contrast, in the regulatory scheme we have proposed, many firms are simultaneously charged 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.133

Similarly, with respect to PR, firms may also prefer performance-based regulation to command and control, because a 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 should not be consumed by youths.

In addition, compliance with a PBR scheme such as ours looks much more proactive than compliance with participation-based schemes. Especially once a firm starts getting results under a PBR scheme, such results make a better impression on the public than merely announcing that a firm is

132 See Benforado, supra note _, at 1733-41.
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 PR benefit inuring to firms is that in-school advertising would become more legitimate. Some firms are already filling schools with advertising,\(^{134}\) which many people find inappropriate,\(^{135}\) and yet schools are loath to reject the financial rewards of permitting it.\(^{136}\) Under this scheme, with a school’s cooperation, a firm could proudly sponsor a “fun run,” basketball tournament, or a variety of other healthy events and information sessions.\(^{137}\) Not only would this type of branding be less offensive, but it would actually create community goodwill for the firm.

VIII. Why PBR Instead of Tort Law

Some enterprising plaintiff lawyers have already attempted what appear so far to be no more than trial balloons, suing food companies for damages on behalf of clients who are obese.\(^{138}\) Under current tort doctrine, since there is

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\(^{134}\) “A General Accounting 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.” NESTLE, supra note _, at 188.

\(^{135}\) “[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.” NESTLE, supra note _, at 191.

\(^{136}\) “Opposition to school commercialism is unlikely to come from financially strapped school officials grateful for whatever help they can get[.]” NESTLE, supra note _, at 191.

\(^{137}\) Currently, “marketing 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 buses; sports uniforms, scoreboards; contests; free samples; coupons for fast food; club and activity sponsorship; and product placement in teaching materials.” NESTLE, supra note _, at 187.

\(^{138}\) “[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.’” Benforado et al., supra note __, at 1723 n.271 (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 POLICY REVIEW 154 (2003); Michelle Mello, David Studdert, and Troyen Brennan, “Obesity – The New Frontier of Public Health Law,” 354 NEW ENGLAND JOURNAL OF MEDICINE 2601 (2006); and Michelle Mello. Eric Rimm and David Studdert,
no claim in these lawsuits 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.

It is theoretically imaginable that 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 decide what to buy. For example, it would not be promising to sue an auto-maker for selling you a convertible after you were hurt in a roll-over accident by claiming the car should have had a hard top, or similarly, that the regular beer you drank should have had even lower 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, some claims about negligent marketing could also be attempted, as was done in handgun litigation.139

Notice that, as discussed earlier, these sorts of lawsuits depend on convincing the jury that there was some specific behavior that the defendant should have engaged in 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, while 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. It is the “causation” requirement of tort law. This means two main things here. First, the jury must be convinced 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. While many jurisdictions follow the “heeding presumption” with respect to warnings that should have been given as to how to handle products more safely (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.

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.” Since 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 already have diabetes that can be scientifically connected to their obesity, many others are “only” seriously at risk of subsequent ill-health. For those victims, trying to decide what the tort law damages amount should be will be very difficult, and in other areas of tort law where such problems have been encountered (say with respect to asbestos), the record of the legal system in sensibly solving this problem is not enviable.\footnote{For another appraisal of the difficulties of this sort of litigation, see 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). (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.)}  

Although, as we have explained, current tort law governing the issue is effectively fault-based, just 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 it was the defendant’s product(s) that caused their obesity. As a theoretical matter, by threatening food companies with strict liability with respect to 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.
Yet, firms will face something of a problem if it turns out that 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 over-drink their 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). Again, however, this won’t be the case with food companies, and so firms would also have to worry that anything they did to change the way their customers consume their product would be offset in their consumption of other products. For this reason alone, we find the case-by-case individual lawsuit approach an unpromising way to deal with childhood obesity, even were strict liability the law of the land (which it is not).

Some lawyers might try to get around 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 and victims could not reasonably know which firm provided the actual drug that harmed them. Although it would be a legal stretch to use the approach employed in the drug cases to obesity, suppose for now the courts were willing to do so. This is now beginning to make the tort strategy look much closer to the PBR regime we have proposed here. 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).

Moreover, we believe our mechanism is better designed 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 our usual inability to tell whether getting Susie to drink fewer Cokes made a difference for her. By linking bad food

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sellers to groups of students organized by schools, we believe, firms are given real target clients, 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.142

IX. Alternative PBR 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 (they contain 40% or more sugar or 30% or more fat) were told to cut in half their sales of such food. 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 product, reduce sales of their existing product, or some combination. However, we find this PBR scheme considerably less attractive that our proposal. For one thing, it in no way assures that there will be 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

142 For other not-optimistic appraisals of the prospects of tort litigation, see Brooke Courtney, Is Obesity Really the Next Tobacco? Lessons Learned from Tobacco for Obesity Litigation, 15 Ann. 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) (characterizing obesity claims against fast-food retailers as one of “the most dubious types of inherent product hazard litigation”). Id

such people only consume those potentially dangerous products in moderate, and hence not unhealthy, amounts. Put differently, there is no assurance that the reduced consumption required by this version of PBR would come from those who consume too much.\footnote{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.}

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. 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 re-framing goal of our proposal, which is to cast substantial responsibility for the childhood obesity problem onto the food industry. Also, penalizing families and schools for failing to achieve their goals is going to be morally troubling – especially since, 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 we could sharply reduce childhood obesity by financially rewarding parents or schools for keeping fit the children who are in their charge, 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 financially reward 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.

X. 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 -- governmental action of one form or another is likely to be taken. 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, we have 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. However, children themselves 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.