

Can Behavioral Economics Combat Obesity?

There is little reason to think that further government intervention will shrink Americans' waistlines.

BY MICHAEL L. MARLOW AND SHERZOD ABDUKADIROV

Obesity, often defined as having a body mass index 20 percent or more above what is considered "healthy" for a person's height, has recently become our nation's public health obsession. Obesity prevalence in 2007–2008 was 33.8 percent, which represents a 50 percent increase from 1988–1994. Encouragingly, the growth in obesity prevalence appears to be slowing, but a recent article in the *American Journal of Preventive Medicine* predicts that by 2030 42 percent of Americans will be obese and 11 percent will be severely obese, or 100 pounds overweight. The same report, conducted by Duke University and the Centers for Disease Control, estimates an extra \$550 billion in health-related costs, along with declining workforce productivity, if that prediction holds true.

Dire predictions often lead to ambitious public policy proposals. The Institute of Medicine (IOM) recently released its 462-page report *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation*. The IOM, part of the National Academy of Sciences, argues that wide-ranging and systemic changes are required to solve the nation's complex, stubborn obesity problem. Proposed solutions include integrating physical activity into every day life in every way, promoting marketing of what matters for a healthy life, promoting greater availability of healthy foods and beverages, enlisting employers and health care professionals in the fight against obesity, and strengthening schools as the "heart of

MICHAEL L. MARLOW is a professor of economics and distinguished scholar at California Polytechnic State University.

SHERZOD ABDUKADIROV is a research fellow in the Regulatory Studies Program at the Mercatus Center at George Mason University.

health." The report concludes that an effective solution requires across-the-board societal change.

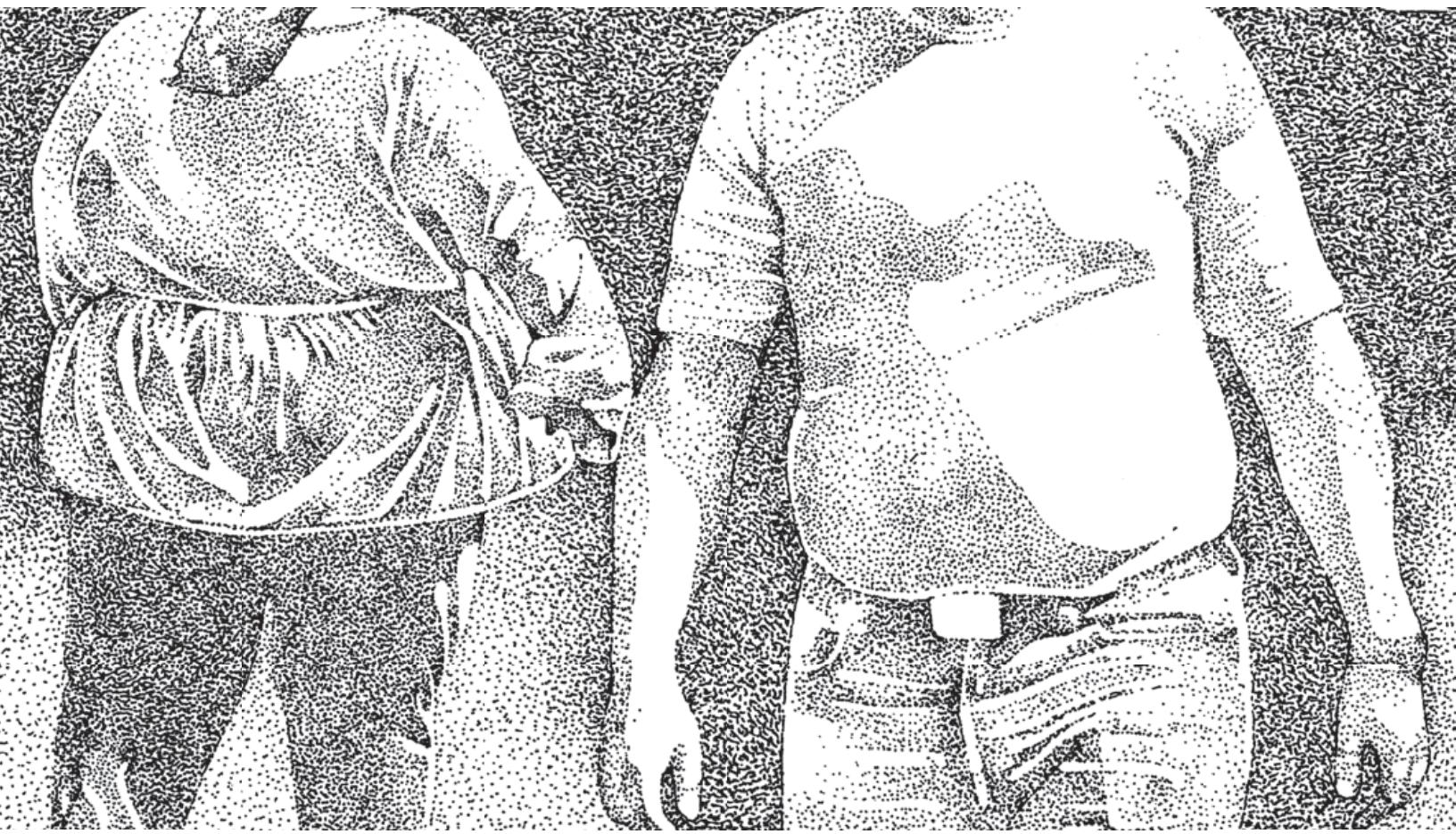
The IOM offers an extensive list of policies that would effectively steer individuals toward their leaner selves. These include tax preferences for housing developers to build sidewalks and trails, reduction in farm subsidies, changes to zoning laws that make outside exercise easier, requiring primary and secondary schools to provide a daily minimum of 60 minutes of physical activity, banning sugary drinks at schools, and perhaps even taxing soda and other sugar-sweetened beverages.

The IOM's motivation for calling upon government is clearly stated on page 117 of the report:

Theory and empirical data from the field of behavioral economics suggest that the majority of physical activity and eating behaviors are routine rather than choices made after deliberation about a set of options.... In such cases, changing the environmental cues or "default choices" to routinely prompt healthier choices could cause favorable (from a public health perspective) shifts in population behavior.

Newspapers quickly responded to the report with headlines informing readers that the IOM concluded that obesity cannot be blamed on a lack of individual willpower. Rather, individuals are unable to truly exercise choice when their options are limited and "biased toward the unhealthy end of the continuum."

This view reflects the growing influence of behavioral economics—a rapidly growing discipline that studies systematic biases of individuals—to justify paternalistic policies. Rising obesity preva-



lence is viewed as a symptom of individuals pursuing behaviors that conflict with their own best interests. Obesity is considered a reflection of irrational behavior by individuals. Behavioral economists devise “nudges” (soft paternalism) or “shoves” (hard paternalism) that steer individuals toward choices that are more in sync with their best interests. In effect, policymakers are believed able and ready to correct individual departures from rationality.

We believe this paternalistic view warrants closer examination. In particular, we examine the pitfalls of the growing use of behavioral economics to justify government intervention into obesity. Policies are too easy to justify under assumptions that government officials are better informed than the individuals they seek to guide. Our examination of the obesity issue demonstrates that government intervention is often ineffective in dealing with individual failures, and in some cases is counterproductive.

The Case for Paternalism

The traditional paradigm in economics is simply to leave people alone to manage their own lives because they are best able to judge their own welfare. Behavioral economists challenge this view by documenting numerous instances in which individual actions are claimed to have bounded rationality. Not only do individuals make mistakes, but they are believed to repeat the same mistakes under similar conditions. It is not that some people make random irrational choices, but rather that most

people deviate from rational decisions in consistent and predictable manners. Choices are thus believed to be systematically biased.

Systematic biases in human behavior fall into two broad categories. The first includes cognitive biases that prevent people from pursuing actions that improve their welfare. For example, a default option or status quo bias leads individuals to stick with what they have rather than search for a better alternative. In one natural experiment, a number of Western European countries adopted a policy that assumed deceased individuals to be organ donors by default, instead of the traditional approach in which the deceased previously had to consent explicitly. Under the new regime, individuals still had the right to opt out of being donors, so they still had both choices available to them; the default option simply changed. However, the differences in donation rates between opt-in and opt-out countries were striking: the rate ranged between 4 and 27 percent in opt-in countries, but hovered above 98 percent for most opt-out countries. Changing the default option from opt-in to opt-out led to a remarkable difference in individual decisions.

In the second category, behavioral economists believe individuals suffer from persistent self-control problems. In economic jargon, such individuals are said to suffer from “hyperbolic discounting.” That leads them to exhibit time inconsistency about discounting future tradeoffs between the present self and the future self. A smoker may find it hard to quit today, but may

nonetheless want to quit “someday” because the benefits of better health outweigh the costs of quitting. The problem is, “someday” never comes; the immediate benefit of continuing smoking today repeatedly outweighs the long-term health benefits of quitting. Consequently, the individual finds it exceedingly difficult to quit smoking. The same logic applies to an obese person trying to stick to a diet or exercise program—“someday” never comes.

Is Government Intervention Effective?

Traditionally, government intervention has been reserved for correcting market failures. The traditional policy toolkit for this is outfitted with two approaches. The first mandates information disclosure to counter information asymmetry. Requiring drug companies to go through testing processes and food companies to disclose calorie counts are examples of such interventions. The second approach increases the costs of “bad” behavior often associated with negative externalities, either through command-and-control regulation, penalties, or taxes. Cigarette taxes and mandatory pollution control devices are examples of this form of intervention.

Paternalists concerned about obesity have proposed using both approaches. Governments have required food producers and servers to disclose calorie counts, sugar and fat contents, and other information to steer consumers toward healthier choices. In doing this, policymakers assume consumers are poorly informed and that fuller disclosure of nutritional information will remedy the problem. Legislation requiring restaurants to print calorie counts of their meals on their menus was first introduced at the local government level in New York City and King County, Washington, and is now proposed on the federal level. Concerning the second, hard-paternalist form of intervention, New York became the first major city to ban trans-fats in 2006, soon followed by Philadelphia. California followed suit by a partial ban on trans-fats at the state level. Paternalists thus attempt to selectively punish “bad” behavior by increasing the costs of unhealthy choices, similar to policies aimed at correcting negative externalities such as pollution. Some governments plan to press further by raising taxes on, or even banning, various unhealthy foods.

We argue that it is inappropriate for these nutrition activists to borrow claims that markets suffer from information asymmetries or negative externalities and then presume such problems also influence individual behavior. Most obese individuals know they are heavy, and that many of the foods they eat are high-calorie. They also face the stigma often linked to obesity. They hardly need the government to give them additional incentives to lose weight. People aware of their mistakes also have strong incentives to correct them. This is an important point because interventions focusing on health risks of obesity may provide minimal new information and steer few people toward losing weight.

Lack of information? | Studies indicate that adults recognize various personal health risks associated with obesity. Finkelstein et al. conducted a survey of 1,130 U.S. adults to test

whether overweight and obese individuals recognize that they are at greater risk of obesity-related diseases and premature mortality. They found that obese (overweight) adults forecast life expectancies 3.9 (2.4) years shorter than those of normal-weight adults. Excess weight was associated with greater self-perceived risk of developing diabetes, cancer, heart disease, and stroke. The authors concluded that mortality predictions generated from the survey were “reasonably close” to those generated from actual life tables for U.S. adults.

Thus it is not surprising that recent interventions are not very effective when they simply provide citizens with information that they already know. A study of New York City’s 2008 law on posting calories in restaurant chains examined how menu calorie labels influenced fast food choices. While 28 percent of patrons in New York said the information influenced their choices, researchers could not detect a change in calories purchased after the law. A similar conclusion was reached in a study of a mandatory menu-labeling regulation requiring all restaurant chains with 15 or more locations to disclose calorie information in King County, Washington. Bollinger et al. studied the impact of mandatory calorie posting on consumers’ purchase decisions at Starbucks. While average calories per transaction fell by 6 percent, the effect was almost entirely related to changes in consumers’ food rather than drink choices. Starbucks is well known for high-calorie coffee drinks loaded with cream, yet mandatory calorie disclosure apparently did little to avert consumer taste for those specialties.

It would seem that consumers were either well informed prior to regulations or chose to ignore new information provided to them. Well-informed consumers indicate no economic justification for intervention. However, paternalists might still object and push for even stronger measures aimed at correcting what they view as repeated mistakes by consumers who insist on not changing eating and drinking patterns that paternalists believe are causes of obesity. The paternalists apparently believe that curtailing consumption is the only rational response to their regulations, and thus unchanged behavior indicates continued irrationality.

Lack of motivation? | It is well known that the obese earn less than the non-obese. Baum and Ford concluded that both men and women experienced a persistent obesity wage penalty over the first two decades of their careers. Cawley found that obese white females earned 11.2 percent lower wages than their non-obese counterparts. A difference in weight of roughly 65 pounds was associated with a difference in wages of 9 percent. Bhattacharya and Bundorf found that cash wages for obese workers were lower than those for non-obese workers because the cost to employers of providing health insurance for these workers was higher. Obese workers with employer-sponsored health insurance thus paid for their greater medical costs by receiving lower cash wages than were paid to non-obese workers.

Business owners understand that healthy employees are more productive, miss fewer work days, and reduce health insurance costs. One study has estimated that higher job absenteeism associated with obesity costs \$4.3 billion annually in the United

States. A study by the Johnson and Johnson family of companies found that its workplace health promotion program led to an average annual per-employee savings of \$565 (in 2009 dollars), or about \$1.88–\$3.92 for every dollar spent. In a meta-analysis of the literature on cost savings associated with such programs, Baicker et al. found that medical costs fall by about \$3.27 for every dollar spent on wellness programs and that absenteeism costs fall by about \$2.73 for every dollar spent.

Recent evidence also questions interventions that attempt to steer the obese away from “junk food.” Van Hook and Altman concluded that children with access to junk food (e.g., soft drinks, candy bars, potato chips) were no heavier than those without. The study followed nearly 20,000 students from kindergarten through the eighth grade in 1,000 public and private schools and found that in the eighth grade, 35.5 percent of kids in schools with junk food were overweight, while 34.8 percent of those in schools without it were overweight. Food sales within schools were, on average, unrelated to obesity, thus raising questions about school-based interventions aimed at reducing childhood obesity.

Research also demonstrates that tax hikes on alcohol and tobacco mostly decrease consumption by light users instead of heavy users. This suggests that raising taxes on junk food will

Taxes steer the elastic consumers, more than the inelastic, away from taxed products and thus exert little to no behavioral effect on the inelastic consumers, such as obese citizens, targeted by government.

mostly cause people without problems to cut back their consumption, while people with problems will simply pay higher taxes. Taxes steer the elastic consumers, more than inelastic, away from taxed products and thus exert little to no behavioral effect on the inelastic consumers, such as obese citizens, targeted by government. Higher taxes and/or bans will be the course of action when paternalists come to realize their past interventions have not met their predictions.

The private market for weight reduction | The demand for solutions to America’s obesity problem is evidenced by the market for diet books, health foods, weight loss centers, exercise equipment, athletic clubs, and other methods people use to control their weight. Many hotel chains offer memberships to their fitness facilities to non-residents for a monthly fee. Diet sodas and low-calorie meals can be purchased at countless independent and chain eateries. Between 1987 and 2004, 35,272 new food products labeled “low fat” or “no fat” were introduced into the U.S. food market, leading U.S. Department of Agriculture researchers to conclude that there is no market failure in healthy food and beverage choices. Sales of Diet Coke overtook those of Pepsi-Cola for the first time in 2010, making

it the second most popular carbonated soft drink in the United States. The Subway sandwich chain, known for healthier fare, recently surpassed McDonalds Corp. as the world’s largest restaurant chain measured in number of locations.

An active private market in providing healthy choices again suggests that paternalists overstate their case for intervention. By ignoring the market’s attempts to deal with obesity, paternalists gain great latitude to overstate the effectiveness of their interventions as they apparently believe that without government we are unlikely to see any improvement in obesity prevalence.

Behavioral Economists Are Imperfect As Well

Behavioral economists inexplicably assume that individuals who supposedly act irrationally in their private choices turn into paragons of rationality when they become bureaucrats. But in fact, Buckley points out that policymakers are likely to suffer from hindsight bias. To a paternalist looking back at an accident after the fact, a low-probability accident may look like a certainty. This is part of a more general egocentric bias in which paternalists greatly overestimate their abilities.

In addition to systematic biases, paternalistic policymakers suffer from imperfect information.

Policymakers make choices when evidence is ambiguous and does not favor any given option. In one example, the U.S. Food and Drug Administration recently proposed a regulation that would require vending machines to display the calorie content of vended items. Its reasoning for the proposed rule is illuminating. The FDA acknowledged that the vending market is highly competitive and thus if consumers demanded calorie count displays, the market would oblige. So by the agency’s own admission, there is no market failure in calorie count information. Providing information to consumers they already know and/or disregard is unlikely to benefit them, but costs society an estimated \$24.5 million each year.

Effectiveness of nutritional labeling regulation is also subject to great debate. Private companies have been experimenting with various types of nutritional labeling. Studies show that they are far more effective in communicating health information to customers than government programs. Stringent government regulation that prescribes particular methods of disclosure constrains private experimentation. The end result is that anti-obesity regulation may reduce the number of innovative solutions that could help individuals control their weight. Unfortunately, more effective and cheaper solutions may simply remain undiscovered and never implemented to help remedy the problem that has been targeted by the regulator.

Paternalistic policies also open up new areas of influence to special interests and lobbyists. Affected industries have strong incentives to shape policy to their own benefit. Yet, paternalists

often forget that policymaking itself is a political process given their implicit assumptions that policies are crafted by benevolent, perfectly rational, and fully informed bureaucrats. Rather, policies result from contentious political processes in which competing interests collide over a range of issues. The final compromise may be far from the most efficient course of action (even if it were available).

There is also little evidence that previous government intervention has lowered obesity among the poor. The USDA concludes that, despite many low-income individuals being both obese and recipients of one or more food assistance programs, the research literature does not show that programs have lowered obesity. Zagorsky and Smith find that the typical female food stamp participant's body mass index is significantly more than someone with the same socioeconomic characteristics who is not in the program. For the average American woman, who is 5 ft., 4 in. tall, this means an increase in weight of 5.8 pounds. Good intentions aside, we should be skeptical of the notion that new interventions will somehow lower obesity when research has yet to prove that past programs have (unintentionally) not promoted obesity.

Conclusion

Obesity is a serious health problem. This article demonstrates that using behavioral economics to guide regulations is both misguided and can be counterproductive to obese and non-obese citizens alike.

Somewhat lost in the public health debate is that people who are aware that they are overweight also experience strong incen-

tives to undertake their own strategies to lose weight. Obese individuals know they are heavy and also suffer the stigma often linked to obesity. Employers have incentives to push their employees to lose weight. A growing demand for weight reduction is evidenced by the ever-growing market for diet books, health foods, weight loss centers, exercise equipment, athletic clubs, and other methods people use to control their weight.

Paternalists ignore the market attempts to deal with obesity since it offers them great latitude to overstate the effectiveness of their interventions. They apparently believe that, without government, we are unlikely to see any improvement in obesity prevalence. Unfortunately, regulators are tempted to turn to "harder" paternalism when they realize past interventions were ineffective.

Substituting government responsibility for personal responsibility over weight has other downsides. Regulators choose one-size-fits-all interventions that ignore the fact that not all obese individuals suffer from the same problems. Regulators also cannot differentiate between those with and without weight problems, as they impose regulations on all citizens. Interventions also crowd out market solutions that arise as firms compete with each other by innovating and providing customers a wide variety of products and services that best serve their needs. Regulation involves government officials picking one strategy over others without having to win customers within a competitive marketplace. Regulation thus can retard innovation in the search for better solutions. Of course, even if paternalists knew what the "right" policies are, it is unlikely that these policies would make it through the political process unscathed, as special interests and lawmakers become involved. R

READING

- *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation*, edited by Dan Glickman, Lynn Parker, Leslie J. Sim, Heather Del Valle Cook, and Emily Ann Miller. National Academies Press, 2012.
- *Advertising Nutrition and Health: Evidence from Food Advertising 1977–1997*, by Pauline M. Ippolito and Janis K. Pappalardo. U.S. Federal Trade Commission, 2002.
- "Calorie Labeling and Food Choices: A First Look at the Effects on Low-Income People in New York City," by B. Elbel, R. Kersh, V. L. Brescoll, and L. B. Dixon. *Health Affairs*, Vol. 28, No. 6 (2009).
- "Calorie Posting in Chain Restaurants," by Bryan Bollinger, Phillip Leslie, and Alan Sorenson. NBER Working Paper No. 15648, January 2010.
- "Competitive Food Sales in Schools and Childhood Obesity: A Longitudinal Study," by Jennifer Van Hook and Claire E. Altman. *Sociology of Education*, Vol. 85, No. 1 (2012).
- "Defaults and Donation Decisions," by Eric Johnson and Daniel Goldstein. *Transplantation*, Vol. 78, No. 12 (2004).
- "Do Obese Persons Comprehend Their Personal Health Risks?" by Eric A. Finkelstein, Derek S. Brown, and W. Douglas Eva. *American Journal of Health Behavior*, Vol. 32, No. 5 (2008).
- "Does the U.S. Food Stamp Program Contribute to Adult Weight Gain?" by Jay L. Zagorsky and Patricia K. Smith. *Economics and Human Biology*, Vol. 7, No. 2 (2009).
- *Fair Governance: Paternalism and Perfectionism*, by F. H. Buckley. Oxford University Press, 2009.
- "Is There a Role for Government in Reducing the Prevalence of Overweight and Obesity?" by Fred Kuchler and Elise Golan. *Choices*, Fall 2004.
- "Mandatory Menu Labeling in One Fast-Food Chain in King County, Washington," by Eric A. Finkelstein, Kiersten L. Strombot, Nadine L. Chan, and James Krieger. *American Journal of Preventive Medicine*, Vol. 40, No. 2 (2011).
- *Nudge: Improving Decisions about Health, Wealth, and Happiness*, by Richard H. Thaler and Cass R. Sunstein. Yale University Press, 2008.
- "Obesity and Severe Obesity Forecasts Through 2030," by Eric A. Finkelstein et al. *American Journal of Preventive Medicine*, forthcoming in 2012.
- "Occupation-Specific Absenteeism Costs Associated with Obesity and Morbid Obesity," by John Cawley, John A. Rizzo, and Kara Haas. *Journal of Occupational and Environmental Medicine*, Vol. 49, No. 12 (2007).
- "Recent Experience in Health Promotion at Johnson and Johnson: Lower Health Spending, Strong Return on Investment," by Rachel M. Henke, Ron Z. Goetzel, Janice McHugh, and Fik Isaac. *Health Affairs*, Vol. 30, No. 3 (2011).
- "Sin Taxes: Do Heterogeneous Responses Undercut Their Value?" by Padmaja Ayyagari, Partha Deb, Jason Fletcher, William T. Gallo, and Jody L. Sindelar. NBER Working Paper No. 15124, July 2009.
- "The Impact of Obesity on Wages," by John Cawley. *Journal of Human Resources*, Vol. 39, No. 2 (2004).
- "The Incidence of the Healthcare Costs of Obesity," by Jay Bhattacharya and M. Kate Bundorf. *Journal of Health Economics*, Vol. 28, No. 3 (2009).
- "The Wage Effects of Obesity: A Longitudinal Study," by Charles L. Baum II and William F. Ford. *Health Economics*, Vol. 13, No. 9 (2004).
- "Workplace Wellness Programs Can Generate Savings," by Katherine Baicker, David Cutler, and Zirui Song. *Health Affairs*, Vol. 29, No. 1 (2010).