

OPINION

Fat New World

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Whether you're in Manhattan or Montana, a visit to the local shopping mall reveals one painfully obvious fact: Americans are fatter than ever. Obesity-related illnesses and complications are now responsible for nearly one-tenth of the nation's annual health-care costs. It's therefore vital to understand what's behind our country's "obesity plague" and how best to solve this major public-health problem. Health economists can help on both fronts.

The rise in obesity is attributable primarily to changes in the price of consuming, and the cost of expending, calories—changes that are byproducts of otherwise beneficial technological advances. The price of food and thus of calories has long been trending downward because of agricultural innovations that have greatly reduced the time and resources required to go from hungry to full.

The effect on weight has been reinforced by a simultaneous trend, also technology driven, toward reducing the physical exertion involved in work.

Productivity gains at work, brought about by automation, have raised incomes and increased the cost of burning calories. When labor is sedentary because of automation, weight can increase even though calorie intake falls, a pattern observed in the post-World War II period.

The fitness and jogging revolution of the 1970s reallocated exercise from work to leisure, but only for people with the spare time, inclination and resources. Increased substitution of sedentary leisure activities (television and, more recently, video games and other online activities) for sports and outdoor play has contributed to childhood obesity, again through technological change.

Long-run changes in economic incentives explain the cross-country pattern of obesity as well as its increase. Explanations based on biology, addiction or culture are unconvincing because they leave unexplained why, for example, Africans are less obese than Americans or why widespread obesity is a relatively recent phenomenon. The price changes cause weight change; other factors, such as the addictive nature of food, consumption, influence the magnitude of the change. Older technologies could not produce enough food, even in rich countries, to make the populations obese, however addictive food was. This is still true for the world's poorer populations.

Food is unlikely to become relatively more costly or work more strenuous. But average incomes should con-

tinue to rise. And within countries wealthier individuals are on average less obese because they have a greater incentive to invest in health. But rich countries have more obesity than poor ones, because the technologies that make them rich make food cheap and work increasingly sedentary.

Government programs aimed at reducing obesity have had limited success. They emphasize educating people in the dangers of obesity and in means of avoiding it. But knowledge of proper diet and the importance of exercise has risen together with weight, indicating that lack of knowl-

Technology spawned the obesity plague. It can also provide a cure.

edge is not the major cause of obesity—it's the lack of strong enough incentives. The private market offers an abundance of weight-management programs, but their long-run effects on weight are small and public programs are unlikely to do better.

Taxing fattening foods has its advocates, but they tend to overlook the fact that consumers can overeat otherwise healthy foods, and that taxes are regressive because they raise the food budget of poor individuals who do not overeat. It would be desirable, but infeasible, to tax just overconsumption of food.

Another form of technological change—medical innovation—may be

the most promising solution to the obesity problem, and here the government may serve a useful role by subsidizing basic research. Medical R&D has proved effective in disease control when behavioral change proved costly. Consider the replacement of quarantines by vaccines or of low-cholesterol diets by drugs, or drug treatments for HIV, which have changed the disease from a death sentence to a chronic condition, at least in wealthy populations.

Even if the behavior giving rise to obesity will continue, just like the behavior underlying HIV, the negative consequences can be reduced by medical interventions—and efficiently so if the cost of R&D is less than that of behavioral change. True, if R&D led to better treatment or even prevention of the diseases that obesity gives rise to or exacerbates, including heart disease, joint problems, surgical complications, and especially diabetes, this would reduce the incentive to lose weight. But if most of the adverse health consequences of obesity were eliminated, obesity would cease to be an issue, except perhaps from an aesthetic or emotional standpoint.

The incentives for medical solutions to obesity are already immense because of the prevalence of obesity and therefore the size of the potential market for solutions. Innovation has already occurred in the form of bariatric surgery, such as gastric bypass and gastric banding, currently the most successful treatment for morbid obesity. New drugs for obesity may replace the \$17 billion annual market for the high-cholesterol medicine Lipitor, which is now the best-selling drug in the world. Virus's new weight-loss drug Osetra, likely to be approved by the Food and Drug Administration this fall, is surely the first of many. Technological change thus may be more successful reducing obesity than attempts to change people's eating and exercise habits have been.

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