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Performance-based Regulation and Salt

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Introduction

About the science. First, the scientific record seems clear that high blood pressure contributes to a significant amount of disease and early death in the United States. Second, although there are some forceful doubters, it is an article of faith among most mainstream public health and medical communities in the United States that substantial population-based reductions in salt consumption (and thereby sodium reduction) would sufficiently lower the blood pressure of a large number of American to yield substantial public health benefits.

Assuming for purposes of this paper that we want Americans to consume less salt, how might this be achieved? At present, adding salt from the shaker either in the course of home cooking or at the table is not a significant source of salt for most people. Experts say that about 80 percent of the sodium consumed by Americans is already contained in restaurant foods and processed foods at the time they are served or purchased. As a practical matter, then, for most people to reduce their salt intake, they either have to consume a different balance of food items and/or food-makers must put much less salt in their products.

I suggest that we consider embracing a new strategy called performance-based regulation as a way to reduce the public health problems (presumably) caused by salt. As I will explain, performance-based regulation employs financial sticks (or carrots) to entice enterprises to decrease the harms their products cause.

But before turning to performance-base regulation, I will focus briefly on some alternatives.

A. Disclosure/Education

Some people would eat less salt than they do today if they were more aware of the general risk that salt brings with it. After all, many people already deliberately try to avoid salty foods because they believe salt is dangerous. But to count on this sort of voluntary individual conduct will probably not suffice by itself to achieve large public health gains.

A rough analogy might be made to tobacco products. A general awareness of the seriousness of the dangers of smoking has indeed caused many people to either quit or not take up smoking in the first place. But today's sharply lowered smoking rates in the United States as compared with higher rates in the 1960s before the publication of the

famous Surgeon General's Report on the dangers of cigarettes are also importantly the result of a range of deliberate public health policies beyond education and disclosure.

Indeed, avoiding smoking in some sense is actually an easier matter for personal action (notwithstanding the addictive nature of cigarettes) than is lowering salt consumption. While it is true that many smokers were fooled into shifting to "light" cigarettes in the false belief that they were markedly safer than traditional cigarettes (when they are not), in the end people are clear about what a cigarette is and is not. On the other hand, they are much less clear about how much salt is contained in the foods they eat. Furthermore, people can go without smoking but they cannot go without eating. Moreover, they probably need at least a minimum amount of salt in their diet for good health, and beyond that, if they were not to get the iodine they need via salt, they would have to get it elsewhere. This means that a personal decision just to say "no" to salt, like people say "no" to smoking, is not a practicable strategy.

Still, government intervention requiring better disclosure about salt might help. A typical public health strategy with respect to salt, then, would be to inform people, not just of the general dangers of high sodium intake, but also of the specific amount of salt contained in the specific things they are eating.

Indeed, efforts like that have already been carried out to some extent. Government-required labels on packaged foods sold in stores currently indicate the contribution that a specific food item makes to the recommended daily allowance of sodium. Alas, these labels are often not very easy for consumers to read or understand (partly because the disclosures are often based on counter-intuitive portion sizes and partly because they are anchored in percentage terms that are probably confusing to many buyers). Moreover, no such labeling requirements currently apply to restaurant food or to most prepared food sold in stores.

To help consumers more intelligently choose to avoid high-sodium products, some people advocate requiring new sorts of salt labels to be put on packaged food, prepared food, and restaurant menus (including fast food menu boards). For example, many people have in mind labels that would be based on a fairly simple red light/green light/yellow light rating system. Based on its sodium content, each item would carry one of three signals, letting people know whether it is high, or low, or in-between in sodium content.

Besides improving on the current system of informing consumers, advocates of this approach believe that the traffic light warning strategy would prod many food makers to reduce the salt in the products they make in order to win more favorable labels.

To be sure, food sellers might try to game the system by claiming preposterously small serving sizes in order to gain green or yellow designations instead of red ones. But this could be combated by allowing private rights of action against providers whose conduct amounted to misleading representations or fraud.

Still, many public health advocates believe that even the most ambitious “disclosure” strategy would not suffice to bring about reductions in salt consumption to the degree that they believe is desirable from a public health perspective. At a minimum it is probably fair to say that we don’t yet know whether this sort of informational campaign would actually cause those who most need to change their eating behavior to shift meaningfully away from red light products. (Experiments with this approach in other countries may soon provide some answers.)

B. Excise Taxes Salt Imposed on Food Makers

Yet a different approach would be to tax the salt in food. This strategy would probably be imposed at the food-maker level. So, while restaurants like McDonald’s would be taxed, so far as grocery stores were concerned this would mean imposing the tax at the manufacturer level, not at the retailer level, (although, of course, one would generally expect that the tax would be passed on to the retailers in the cost of the products).

Notice that, under the excise tax approach, food makers would have two main choices. They could keep the salt content of their products as it is and raise the price, or they could reduce (or even eliminate) salt from their products as a way to reduce (or eliminate) the tax they pay. For products where salt reductions are easy without causing significant changes in taste, food makers are likely to be forced by competition to reduce salt content. Otherwise, their products would become more expensive and they would lose sales to competitors who would face reduced or zero taxes (or else they would be prevented by competition from passing the salt tax on and they would lose profits). For other products, all (or almost all) sellers might keep salt levels as they are now, but those products would become more expensive. Market responses to the higher price would cause at least some drop in consumption of saltier products, thereby also contributing to a reduction in salt in the American diet.

C. Performance-based Regulation of Food Makers

Before further discussion the excise tax strategy, I would like to explore the possibility of a different sort of regulation. I call this approach performance-based regulation, which others sometimes call outcomes-based regulation.

Put simply, performance-based regulation requires but a few basic steps. A relevant public agency first sets the public health goals for each regulated company. Second, it measures whether or not each company has met its target. If so, the company is appropriately applauded. If not, substantial fines are imposed on the enterprise—costs that, in an important sense, internalize into the enterprise negative social costs that flow from the products it puts into the market.

Some advocates such as the American Medical Association seem to favor across the board reductions (over time) in the amount of sodium contained in **all** restaurant and

processed food. Like the excise tax strategy, this approach appears to envision aiming the regulation at food makers—companies that make processed food that is sold in retail markets and that make the food that is sold in restaurants. Simply put, the idea here would be to insist that food-makers cut the amount of salt in their products. Some advocates have discussed a 50% reduction over 10 years.

So far these calls for action appear primarily to be admonishments to industry backed up with vague threats of potential regulation of an undisclosed sort if the goal is not met. But it is easy to envision turning such calls into a formal legal requirement.

Under a performance-based regulatory scheme, food makers could be given outcome targets cast in terms of reduced salt levels, say, a 5% reduction every year for a decade until the 50% target is reached. If firms failed to reach their targets, substantial fees/fines/taxes would be imposed on them.

Notice how this approach differs from the excise tax scheme. Under the latter, the tax is applied from the get-go. Under performance-based regulation the tax (or fee/penalty) is imposed only if a firm fails to meet its target – it is as though there is an exemption from tax up to the amount of the allowable salt level.

Yet when thinking about the regulatory intervention in this way it becomes clear that the right regulatory strategy is probably not to try to force a sharp and uniform reduction in the salt content of every product. After all, some products are already reduced-salt items. Also, the same proportion of salt reduction in other products might yield very different taste changes.

Rather, a 50% salt reduction overall might be more desirably achieved by reducing the amount of salt in certain widely consumed and very salty foods by a lot more than 50%, while at the same time keeping the amount of salt as it is in lots of products.

After all, eating less salty versions of what you currently eat (e.g. less salty salami, less salty Big-Macs, less salty pizza, and the like) is not the only way to reduce salt consumption. You could instead simply eat much less of the salty food you now eat, without changing the amount of salt in any portion. Presumably this would be accompanied by a shift in your consumption, so that you also would eat more food that contains no salt or less salt. Or, most likely, you would do both—that is, you would shift both to a higher share of un-salty food and to less salty versions of some of what you currently eat.

A regulatory regime could try to deal with this difference among foods by sorting products into categories, and assigning different salt reduction targets to each category, calculated so that, overall, there would be a 50% reduction. But such a scheme would be complex and contentious and perhaps difficult to oversee.

D. Performance-based Regulation of Retailers

This line of thinking suggests to me that rather than apply performance-based regulation to food-makers, it might be wiser to apply it to retailers. In effect, Wal-Mart, Costco, Safeway, 7-11 and all the other retail chains would be required to cut the total amount of salt contained in the total basket of all the food they sell. Fast food retailers and sit-down restaurant chains would have a similar target.

The first thing to note about this approach is that targeting large retailers (both stores and restaurants) could probably sweep in 80% of the processed and restaurant food now sold. Hence, there would be relatively few enterprises for the regulatory regime to monitor. Also including in the scheme the large wholesalers and distributors who provide a significant share of the food sold via small restaurants and markets would probably sweep in a large share of what is left, and still keep the number of regulated firms to a modest number.

The general point about using retailers at the target is illustrated by the idea that, if the goal is salt reduction, we should not care whether the reduction comes from cutting in half the amount of salt added to McDonald's french fries or from McDonald's shifting half of its french fries sales to un-salty foods like unsalted baked potatoes or even to unsalted drinks. So too, we ought to be just as happy (salt-wise) if the same salt reduction were achieved by McDonald's cutting the fries portions in half in a way that cuts their consumption in half (i.e. people did not consume double-orders).

So, there, in a nutshell is how performance-based regulation might be tried out.

To be sure, some complex administrative details would have to be worked out. For example, simply telling Wal-Mart that it has to cut in half the amount of salt in the total volume of food it sells is probably not a sensible target if Wal-Mart's changes its sales volume. For example, if it increases its market share of the food sold in the United States, then that should be taken into account. Put simply, if Wal-Mart provided 10% of the nation's food sold at retail at the start of the regime but 20% by the end, it does not seem to make sense to tell Wal-Mart to cut in half the amount of salt in what it sells. Maybe it would be fairer, in this example, to say that it should keep constant the amount of salt in what it sells.

Even if it does not increase its market share, Wal-Mart may increase its sales simply because there are more Americans. And an additional possible source of change in Wal-Mart's business could come from the share of food people buy in markets versus restaurants (or growing their own). Finally, it is possible that people would eat significantly less or more food at the end of the period as compared with the start. Changes of these sorts also should probably require some adjustment in the way the performance-based target is set.

While this might not be exactly right, one fairly simple solution that should be rather easy to administer is first to randomly identify, say, \$10,000 in Wal-Mart food sales at the start of the regime and determine that those sales contain X grams of salt. Then Wal-Mart's regulatory target might be to cut that amount of salt in half by the end of the period.

Because of inflation, however, we might want to measure the end-of-the-period food basket in terms of 2008 dollars.

For such a scheme, I have arbitrarily set a 50% reduction as the target because that was suggested by the AMA. However, it is by no means clear that this is the right target. Nor is it clear at what pace the 50% target ought to be achieved. Should it be 10% of the way towards the 50% reduction goal over each of 10 years? Should the rate of reduction start out faster or slower? Should there be some period of time at the start for the regulated firms to have no required reductions at all while they try to sort out and implement their strategy? For example, maybe by the end of the third year they should have achieved a 15% reduction, with a 5% further reduction required in each of the next seven years. These are other details that an actual performance-based regulatory scheme would have to sort out and I leave them aside for now.

The crucial point to re-emphasize is that, given this sort of performance-based goal, Wal-Mart and its fellow regulated retailers could respond in a variety of ways. They could press their product providers to reduce the salt in their products. They could press for smaller portion or package size for some salty products. They could stock fewer high-salt products and instead feature more salt-free (or low-salt) products on the shelves in order to prompt higher sales of the latter. They could engage in customer education to the extent they thought it effective. For example, they could develop their own red light/green light system for package labeling if they thought it helpful. They could also use price strategies to shift buying practices in ways that most efficiently allowed Wal-Mart to meet its goals. Probably some combination of all of these would be tried.

Wal-Mart might initially go about trying to reach its salt-reduction target in ways that differed sharply from those tried by other retailers like Costco, Safeway, Walgreen, and 7-11. Over time, one would expect that competition among these giant sellers might reveal the best current strategy for both meeting the enterprise's salt goal and remaining most profitable. To be sure, some firms are likely to be followers who just jump on what appears to be the most successful bandwagon invented by others. Still, industry leaders are likely to adopt innovative approaches that give them at least a short term financial edge.

Any such regime needs teeth to have real bite, and so it is critical to specify what happens if the regulated firms do not meet their goals. The general approach of performance-based regulation is to make them pay fees (call them fines or penalties or taxes if you like) that reflect the social costs that occur from salt intake beyond the target. In this setting it would be highly contentious as to what those social costs are. The underlying idea, however, is to force the regulated firms to engage in salt reduction activities when it is efficient to do so. That means that if it is just too expensive to achieve the 50% reduction target, then it is better if they just pay the penalty. Setting the penalty level exactly right is not easy to do, and, yet, other things being equal, it is probably better to err on the high side as a technology-forcing strategy. In any event, if a regulatory agency were put in charge of the regime, it could hold hearings and settle upon a reasonably sensible solution.

E. Performance-based Regulation of Retailers v. an Excise Tax on Food Makers

Notice first that, unlike performance-based regulation, an excise tax scheme has no overall salt-reduction target as part of the plan. To be sure, the legislature (or agency) could manipulate the tax over time to try to achieve the sort of target salt reduction demanded by performance-based regulation. Second, the excise tax scheme would of course generate revenues for the government since clearly not all products would become salt-free. This would provide government with income that would have to be used for some political purpose. Under performance-based regulation, if all firms met their goals, there would be no revenues paid into the government. In an era of resistance to any new taxes, this could be a very strong political plus. Third, notice how the tax approach counts for its public health gains on a combination of actions by food makers and food consumers that arise in response to the tax. Performance-based regulation counts on retailers to drive behavioral changes as a way to avoid penalties. To be sure those changes would come from both food makers and consumers. In effect, performance-based regulation is itself a subtle tax scheme in which there are no taxes imposed on the first (allowable) level of salt; rather, taxes are only imposed if firms fail to meet their regulatory targets. As a result, firms like Wal-Mart would take charge of the problem, instead of simply passing on taxes that have been imposed on their suppliers.

F. Performance-Based Regulation and the Lowering of American Blood Pressure

Now imagine that the proposed scheme of using performance-based regulation to enlist the efforts of retailers actually works. That is, assume that by the end of 10 years, on average every \$10,000 (in 2008 dollars) of food sold by retailers (stores and restaurants) would contain half the salt that it now contains. Let us assume this translates into Americans consuming half the salt they now do, seemingly meeting the AMA goal.

But a question remains: who individually would have reduced their salt intake? Presumably it would not be uniform. To the extent that those who already have well below average blood pressure (BP) reduced their salt intake, there is reason to be skeptical about whether they would enjoy important health benefits. Indeed, some people might even have negative effects from too low blood pressure, although these are unlikely to be frequent or large.

On the other hand, assume that sharply reducing salt intake would decidedly benefit people who now have very high BP. Still, it is unclear whether this benefit would be any greater than would occur if this category of people instead took medication or engaged in more physical activities. More specifically, the point is that many people who would otherwise have done things like take medicine or exercise more might not do those things if they found themselves outside the high BP category through salt reduction. In short these people might have reduced their BP the same amount whether or not salt was reduced from their diet. Whether it is healthier to reduce BP by salt reduction or by these

other ways is a question without an obvious answer, although many would probably say that it would be better to reduce salt than take medicine.

Yet, people with very high BP account for only a small share of the American public—perhaps 15%. What about everyone else? Here we are thrust into a field of land mines. Some think that this large in-between group would benefit little in terms of BP reduction from salt reduction. Even assuming it did, some think that little or no health benefit would come from any such BP reduction. Others, by contrast, think a huge number of lives would be lengthened significantly by achieving even modest national average blood pressure readings.

In any event, the concern I am raising about using a measure like reduced national salt consumption as a performance-based target imposed on retailers is that a more fine-tuned target might be more effective.

G. Targeting Performance-based Regulation on Health Care Providers

This line of analysis brings me to yet a different way to think about the problem. Instead of imposing performance-based regulation on food retailers, suppose we impose it on doctors, or more plausibly on health insurers/medical groups. The idea here is that we would not try to impact BP readings indirectly by insisting on salt reduction as the outcome target. Instead, we would focus directly on BP.

So, imagine that Kaiser Permanente in Oakland, California has 300,000 members, or that Health Net in Northern California has 800,000 members. Imagine they are told to reduce the BP of those in their groups. Thought about in this way, we would not target an across-the-board reduction. Rather, we would want that reduction to come from those with higher BP. Hence the target could be phrased rather differently, such as reducing the number of patients with high BP by 5% each year, or reducing the level of BP of those in the high BP group by 5% each year. Maybe there would be different targets for those at very high versus somewhat elevated BP levels.

Obviously, it would be wrong to expect the doctors or insurers to get everyone in their group's BP to a healthy level. But the targets could recognize that. The point now is that by regulating the problem at this level, we could focus more on the actual worrisome healthy indicator—high BP.

The health group/doctor could use various behavior changing strategies to get patients to change their diet and reduce salt intake in order to get them to reduce their BP. Patients could be told or directed to shop at stores with healthier products, to buy less salty products, to eat fewer products that are high in salt, to eat less-salty versions of such products, and so on. While many doctors would say that they cannot control their patient's behavior, this is only partly true; after all, they are fairly good at controlling the drug-taking behavior of at least a reasonably high share of their patients. The general point is that if salt reduction by their patients were the regulatory goal that financially

mattered to doctors, I am confident that a lot more effective measures would be developed towards achieving that goal.

But of course if the doctors' regulatory target were reduced BP in their patients with high BP, then encouraging salt reduction in those patients is not the only approach doctors might try. And this raises the question of whether health groups would pick a BP reduction strategy that may be cheapest and most effective but which has riskier side effects, such as prescribing BP-reducing medicine, perhaps in excessive doses. However, one check against this perverse response is that if doctors push their patients to do things that are bad for their health, this could turn around and hurt the health care group/insurer down the line.

A separate problem is that doctors or health plans might not be eager to accept patients with higher BP, or perhaps more precisely, those with higher BP who will not see reductions based on new health care initiatives undertaken in response to the scheme. This could cause some doctors and health plans to try to screen out some patients at the front end or drive them out along the way. To discourage that practice, there would have to be some regulatory controls or statistical adjustments that made this sort of gaming strategy ineffective, or at least largely so.

It should also be noted that such a scheme need not necessarily be based on fees/penalties/fines being imposed for non-compliance. That sort of financial incentive was assumed in the discussion of the application of performance-based regulation to the Wal-Marts of the world. Yet, one could instead envision a system of rewards. For example, at Kaiser in Portland, Oregon, as I understand it, dentists are financially rewarded if their patients who now smoke go into smoking cessation programs. This gives the dentists incentive to try hard to persuade their patients to try cessation. Maybe there are (or should be) additional incentive rewards provided to those who run the cessation programs based on successfully getting their patients to quit.

Suppose, then, that doctors or medical groups could earn extra cash payments (a higher salary, for example) if they achieved lowered BP in their patients who now have high BP. One concern about such reward schemes is that doctors might just ignore the rewards and thereby make the whole program meaningless. Obviously, this could be combated by making the rewards sufficiently large to make a financial difference. And that could happen by taking money out of the salary pot from which doctors now dip merely by seeing a patient and putting it into a second pot that doctors would access to the extent of their success.

Clearly, if it were the government that was running this sort of incentive scheme we would expect that some doctors would cheat and some of those would get away with it. For example, some might over report the patient's BP at the start and/or under report it later in order to get the reward. But if the regulatory scheme targeted the health plan/insurer, then perhaps those private actors might more effectively police such fraud.

H. Using Performance-based Regulation to Target Healthy People (rather than salt intake or blood pressure levels)

Once we start opening up our imaginations like this we see that merely reducing salt consumption or merely reducing BP, even in patients with high BP, is not really the health outcome that matters. Ultimately what we want is for people to have longer and healthier lives, especially when that can be achieved at a reasonable cost and without unreasonable risk. Hence, we could go one step further—rather than penalizing or rewarding the regulated parties based on BP levels or salt, we could instead base penalties or rewards on those end point outcomes.

For example, we could tell providers of salty food that what they really are going to be judged on is whether a group of people assigned to them lives longer and healthier. Maybe Wal-Mart would have to take responsibility for everyone in Texas and Arkansas. Costco might get those in Washington and Oregon, 7-11 those in Colorado, and so on. Or maybe food providers like PepsiCo are the ones who should be given these obligations. Of course, it seems more straightforward to demand only that PepsiCo reduce the salt in Frito-Lay chips and Doritos, rather than to demand that PepsiCo improve the health of the people of the state of New York. Nonetheless, the beauty of the performance-based regulation approach is that it is no defense that the regulated enterprise might not be able to solve the problem acting alone. Firms would have to figure out who could make a difference and enlist them in the cause. For example, PepsiCo could engage the doctors, teachers, and TV stations in the area for which it is responsible. The key is convincing the public (and our legislators) that the products that PepsiCo makes are currently sufficiently harmful to health that imposing the obligation on PepsiCo to improve public health outcomes is only fair.

To sum up, performance-based regulation is a mechanism designed to entice private enterprises to take responsibility for achieving socially desirable objectives. As illustrated here, there are many options as to how far down the chain the regulatory target should be set, and there are many parties on whom the performance-based regime might be imposed. It remains to be determined whether performance-based regulation is at all politically practicable. In the meantime, it represents a new way of thinking about public health regulation that, I believe, deserves further analysis and evaluation.