Fat-tax

An Economic Analysis

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Executive Summary

A tax on food containing fat (a "fat-tax") is meant to be a key measure in government policy directed at the issue of obesity. The goal of the study is to assess whether the fat-tax, or similar taxes, is an effective means for the achievement of the desired end (i.e. the solution/mitigation of the obesity problem).

This is critically examined at several levels.

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First, there seems to be a lack of reasons to consider overweight or obesity a *public* problem and hence as something in need of a *government* action. This is because these phenomena are widely admitted to be products of people's decisions over their lifestyles: a product of a trade-off between good health condition and comfortable and enjoyable life. Thus, despite all of its serious health consequences, obesity is not a disease that affects individuals in society at random, but a pathological state of health typical for those who willingly engage in a lifestyle conducive to obesity.

The case for government action against obesity could thus be restored only on grounds of some market failure, of which "an information failure" and "an externality" are considered. The claim that people's knowledge about lifestyle systematically underestimates the effects of a rich diet and poor exercise is found untenable. On the other hand, the externality argument has some merits as it must be admitted that the cost of engaging in an obesity-conducive lifestyle is external. However, it must be pointed out that it is so in all cases of activities where engaging in it increases health risks, and that such externality is a product of current health care systems. These systems are designed precisely to make the costs external as the health insurance premiums

are banned from reflecting, and are thus independent of, the lifestyle of given individual.

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On the second level, if the legitimacy of government dealing with obesity is, for the sake of further argument, granted, the focus shifts to benefits and cost of the proposed tax.

The benefits lie in either decreasing the weight and health-care cost of individuals (and thus preventing the externality from emerging; the fat-tax works as "deterrent"), or yielding extra revenue that can be used to cover the extra health-care cost brought about by overweight individuals (and thus internalizing the existing externality; the fat-tax works as "revenue-generator"). Both of theses mechanisms are however subject to possible hindrances that may prevent the tax from leading to the elimination of the obesity problem. As far as the fat-tax as deterrent mechanism is concerned, there are three major slips: a) The likely insensitiveness of the fat consumption to price increases, resulting in relatively insignificant reductions in fat consumption the tax is capable of producing. b) Even if successful, the reduced fat consumption may be substituted by increased consumption of other commodities, resulting in relatively insignificant reductions in average weight. c) Even if weight of an average individual is reduced, it might be brought about by weight losses of people that were not a burden, while affecting only marginally the overweight individuals (who find it hardest of all to give up fat consumption), resulting in relatively insignificant reductions of the burden obesity is imposing in the health-care system.

When it comes to the fat-tax as revenue-generator, there is uncertainty about the way the proceeds from the tax will be used. They can, and are likely to, be used by government either for project entirely outside the health care

industry, or, even if used in health care, they can end up financing other issues than obesity-related treatment. Either way, the goal of internalizing the obesity-induced externality would not be achieved.

The costs the imposition of the tax would be associated with lie for one thing in the standard economic cost of a tax (the dead-weight loss). Besides this there are very many factors that might be included, but three further factors seem to stand out as most likely and relevant: a) The tax may increase the cost in other areas of health care by exacerbating the problem of food security (undernourishment), or by causing people to turn to smoking (a well-known corollary of dieting). b) The cost of running and enforcing the system is likely to be substantial due to hard targeting of all products containing fat (much of it home-made) and due to the appearance of black markets and all its corollaries. c) The adjustment cost to the economy that – though a temporary one – may be significant as the tax would initiate restructuring on a large scale.

Unwilling to engage in making cardinal estimations and comparisons of benefits and costs, it is nevertheless found instructive for their balancing to overestimation of benefits and underestimation or ignorance of the costs.

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On the third level, even if it is supposed that benefits are greater than costs, it is still improper to consider the fat-tax a suitable policy for mitigation of the obesity problem. This is because the goal could be achieved at a lower cost (i.e. with less distortions and free of many slips) by employing a more direct measure. Namely, if the direct cause of the problem is excessive body weight than it is logical to target and tax directly the excessive weight rather then the myriad of its causes.

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It is thus concluded that if obesity constitutes any problem at all, the fat-tax is at most a very clumsy instrument to fight it: the solution must decidedly be sought elsewhere.

1. Introduction

Taxes have long ago officially lost their purely fiscal importance, and instead came to be understood as a means of achieving non-fiscal goals of those empowered to impose them. Recently, in many developed countries, policy-makers have proposed installing a tax on foodstuffs – a "fat-tax" – to address the issue of obesity. We think it therefore worthwhile to look into the logic of this proposal and find out what the possible merits of it are. The goal of this study is to judge whether the fat tax is a suitable means for dealing with the much-discussed "obesity epidemic". In order to undertake this task, we must examine the nature of the problem and assess how effectively, and at what cost, could the fat-tax contribute to its solution.

The second part of this study examines the background of the fat-tax proposal: the issue of obesity, and reasons for making it a subject of public policy. In the third part, we focus more closely upon the logic through which tax is supposed to deal with the problem of obesity, closely examining the assumptions that are required for the mechanism of the tax to work and the likelihood that these assumptions are (or will be) in fact met. The second part of the same section addresses the costs of the prospective tax. After adding another argument against the fat-tax in the fourth section, we will be able, in the final section, to derive a conclusion as to the desirability of its imposition.

2. Obesity and the Rationale of the Fat-tax

Obesity – a state of being overweight in terms generally acknowledged criteria[1] – has been around from time immemorial. Being fat was in a many parts of the world and in many times in history an indication of a comfortable life and welfare. Such sentiments are even surviving to this day in the form of vernacular expressions like "you look good and well fed" or "what is wrong with you, you look so skinny".

Due to available statistics on body weight, one can spot a trend towards rising average weight and, its corollary, greater obesity rates. This seems to be a world-wide phenomenon,[2] manifesting itself even on the African continent, traditionally considered a nutritionally deficient area. Contrary to the attitude of our ancestors, this development is generally seen as retrogression, and a modern pandemic that needs to be addressed somehow. It is pointed out that obesity entails increased health risks (diabetes, various heart diseases, hypertension, asthma, impairment of locomotive organs or even cancer) and negative aesthetic impact upon one's appearance (associated with difficult socialization), both resulting in substantial social cost.

Yet, economically speaking, the need for action is in no way a crystal-clear conclusion. The fact that there are more and more people whose weight falls into the category

[1] Currently, one is considered obese when one's weight exceeds 120 per cent of one's "ideal" weight, determined from data on one's height and sex.

[2] According to recent studies, the population of the Czech Republic with its 15% obesity rate ranks as the second highest in Europe (see Daňková et al., 2004, pp. 29-31). Body mass indices are rising (but far from substantially, actually within the statistical error): it rose from 25.9 in 1999 to 26.0 in 2002 for men and from 24.8 to 25.2 for women (see HIS CR 2002, p. 22, and HIS CR 99, p. 20).

of being obese is not by itself a reason for any action, let alone any action on the part of public authorities. This is so for the same reason why any other rising (or falling, for that matter) figure in statistical data about population does not constitute a case for intervention.

As long as the weight data describe the consequences of voluntary choices of individuals, the *prima facie* assumption is simple: it is a state of affairs that people demonstrably *prefer* to other available alternatives.

This conclusion is supported by the nature of causes of obesity, which are perfectly well accepted by the advocates of the fat-tax: greater calorie input than output, resulting in an accumulation of fat in the body.[3] Admittedly, there are substantial physiological differences among people as to the way the calorie input is turned into output (i.e. differences in metabolism). But as there is no reason to suppose that these, largely genetically determined, traits change in time (let alone change in such fashion as to *worsen* the metabolism and worsen it so *fast*), it must be concluded that the observed rising obesity rates are a consequence of a change in human behavior. Whatever the particular instances of that behavior – dietary habits, working conditions, leisure activities – it always comes down to a voluntary choice of that course of action. Thus, obesity is not like a natural disaster – a hurricane or flood – that comes unsolicited. Though widely considered a disease and epidemic,[4] it is a

[3] This is not to say that there is conclusive scientific evidence that the diet itself is a major determinant of weight. In fact, there is a vast amount of literature casting doubts at this view (see e.g. Garner, Wooley, 1991 or Gaesser, 1998), considering it simplistic and misguided. A much greater role is assigned to exercising (see e.g. Blair, Church, 2004 or Gaesser, 1999) and a crucial role to genetics (see e.g. Friedman, 2004). For an overview of such literature, see Szwarc, 2004.

[4] See e.g. the web page of *American Obesity Association* (http://www.obesity.org/subs/fastfacts/obesity_what2.shtml).

kind of disease that cannot spread in any other way but through adopting certain kinds of behavior. In short, what seems to be the overwhelming case is that people make choices in favor of a more comfortable and satiating life at the cost of some additional health problems and the reality suggests that so far the benefits are generally deemed to outweigh the cost. If this is the case then there is no need for considering obesity a problem and putting it on the agenda of public authorities.

Indeed, there seems to be an inherent contradiction lying right at the very root of the whole reasoning in favor of the tax: obesity is either determined by lifestyle people *choose* to live, but then it does not constitute a problem that needs solving. Or it is indeed a disease, independent of human behavior, but then it cannot be addressed by a tax! Either way, the fat-tax appears unsubstantiated and unjustifiable.

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As far as economics is concerned, this conclusion can be attacked (and a case for intervention resumed) *only* on the ground of some type of a market failure. Two most plausible claims of market failure are the information failure and external cost. Let us now look at both of these arguments in more detail.

2.1 Information failure

One can easily argue that the trade-off of a more comfortable life for higher health risks and shorter life is a choice that is being made by *imperfectly informed* individuals. Hence, their choice might be distorted and suboptimal.

Such claim, however, proves too much. Surely, individuals are generally not experts when it comes to nutrition, metabolism, physical exercise and all the other

fields that one would need to master in order to make a perfectly informed decision – in fact, it would be truly impossible to find a single individual able to make such decision. But the same holds by and large for any other choices people make. And as routine, frequent and important as such choices are, they are generally not subject to an extra remedial intervention on the part of government.

Thus, in order to substantiate the case for such intervention, one would have to provide reasons to believe that the information deficit on the part of the decision-makers causes their decisions to be biased. Namely, one would have to show that decision-makers systematically over-rate benefits and under-rate cost of having a surplus in overall energy balance.

Such presumption is, however, extremely shaky. The logic of the body weight determination seems to be very well understood by pretty much everyone in the population, not excluding youth and children. It is a commonplace knowledge that eating too much and/or eating food rich in fat is detrimental for one's health. Just how ordinary this knowledge is can also be seen from the common parlance expressions like "what tastes good is no good". Similarly, it goes almost unchallenged that physical activity (exercising, working out or doing some sports) improves one's health condition. That people are not only aware of these facts, but many of them actually make efforts to heed these nostrums can be seen from the enormous volume of goods that are designed to cater for such preferences.[5] A brief look at

[5] That people are generally well aware of these principles can be indicated also by the number of respondents in sample surveys whose observance of nutrition principles is classified as good or moderate. Respondents with bad nutrition habits are consistently well below 10 per cent across almost all age- and education categories and rarely even approaching this threshold (see HIS CR 2002, p. 25, 27, and HIS CR 99, p. 27,28).

markets, and the advertising market in particular, will indicate that people know about and do demand healthier food: low-fat food is demanded because it is considered healthy. The same can be stated for physical exercise: work-out machines and tools and sport facilities make up for a large part of advertised products and the dominating motive is not fun, but the desire to stay, or get, healthy and fit. Finally, a firm understanding of the downsides of a rich diet and low exercise can be seen from the proverbial bad feeling people have when they engage in such (in)activities – it is quite common to hear people comment on how they "sin" when they eat more or skip their weekly exercise…

Despite the imperfection of knowledge of those who make decisions about their lifestyles, it does not seem reasonable to believe they are making systematically wrong choices. In fact, one could more meaningfully claim that, if their decisions are distorted by biased information at all, they are likely to be distorted *in favor* of healthy lifestyles! This is because when it comes to awareness, people are aware of, and are daily informed about, health risks of a bad diet and health benefits of exercising. On the other hand, they are being much less informed, and misinformed, about possible health risks of dieting and over-exercising.

Obviously, *knowing* – though imperfectly – about benefits and costs of a particular lifestyle does not necessarily *imply* actually practicing a healthy one. It only shows that the current lifestyle of people (which is presumed to lead to obesity and is not therefore considered all that healthy) can be a rational choice that takes into account even other considerations besides the health risks. E.g., people know that eating hamburgers increases the risk of major health problems, but still opt to consume certain quantities of them due to other benefits derived therefrom (taste, availability, price etc.). Either way, the alleged health

inferiority of current lifestyles is no basis for the assumption that their choice is misinformed and hence suboptimal. The information failure then cannot be taken as a valid justification for government interference.

Lastly, it should also be stressed that even if it was shown that the lifestyle choice is distorted due to imperfect information, the appropriate remedy is to remove the source of the distortion[6] – i.e. supply the missing information. This can include all sorts of campaigns and education programs, but is no justification for a tax on fat as is being suggested.

2.2 External Cost

Another route that is likely to be taken to provide economic justification of the fat-tax is to invoke the standard externality argument. It may be asserted that when people decide over their lifestyle they do not take into account *all* cost associated with their actions. Namely, part of the health-care cost increased due to unhealthy lifestyle is born by community. Consequently, the private cost of the decision-makers appears to be lower than it really is and their choice is thus distorted and suboptimal.

Arguments of this kind surely merit some consideration. It must be fully admitted that a system in which people do not bear the whole cost of the health-care services they claim causes *all* individuals generally to behave less responsibly with respect to their health than they otherwise would. The reason for this is that the system makes it less costly to them to engage in potentially health-detrimental activities. And these of course include habits conducive to obesity: there are good reasons to suppose that people eat more, and exercise less, than they would if they had to bear the whole cost of their health care. Economically

[6] On this, see also section 4 on page 32.

speaking, their lifestyle choice is indeed distorted with the result of people being more obese than they otherwise would have been. Though individually rational, the community as a whole is worse off under such circumstances as it has to carry the burden of external costs that individuals failed to incorporate into their decision-making.[7]

Having sketched the nature of this problem, it should be now clear where the roots of the problem are: it is the existence of the external cost, which is in turn a product of a nationalized health-care system. Significantly, this system is designed precisely to make the cost almost wholly external: direct payments (the only *internal* cost) amounts to very little of the total health-care spending, and sickness funds are prohibited by law from risk-rating their customers (contributors) and charging different premiums accordingly. This is a method that insurance companies routinely use to internalize cost and surely would use were they not prevented from doing so by government. Thus, it should be noted that the presumed inefficient outcome of lifestyle decision-making is a direct consequence of a major government interference with the market.

This is important not only terminologically[8] but primarily in order to show that the most logical step to remedy such failure is to remove its root cause – allow the

[7] It should also be pointed out that the effect is not only the inefficiency but also *redistribution* from the health-conscious and responsible individuals to those who are risking and reckless. Curiously enough, this is rarely found objectionable. Ex post, not only is the health care system more expensive than it would otherwise be but also redistributive as those who engage in a lifestyle that is less conducive to health than the lifestyle of an average person in the given national health insurance system live at the expense of those with healthier-than-average lifestyle.

[8] The alleged "*market* failure" is here directly caused by government and should be then more appropriately called a "*government* failure".

health insurance reflect the different health risk categories that people can be actuarially grouped into. Overweight and obesity would be a factor that would move one towards higher risk categories with higher premiums. In this way, the health care cost would be internalized, external cost removed,[9] and lifestyle decision-making could be considered efficient again.

The external cost argument is therefore an argument *against* government intervention in the first place.

It is only after this way of remedying the external cost failure is by assumption ruled out as unfeasible (for political or other reasons) that one can turn to next best solutions – with a fat-tax among them.[10] At this point, enquiring about the robustness of economic justification of government action to address obesity, it only suffices to note that solving problems caused by government intervention with *further* government interference is both theoretically and empirically considered inferior, unstable and generally as a dangerous path to take, for both economic and political reasons.[11]

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From what has been stated above, one can conclude that there is no clear-cut evidence of economic reasons to justify the need for government engagement in the issue of obesity. Obesity, in keeping with the common assumption that it is to a large extent determined by one's lifestyle, is not something that is happening to people against their will,

[9] Due to the cost of risk-rating, the number of risk groups would be limited. Thus, there would still be some difference in health risks of individuals within the same group, and consequently some redistribution going on. But this would be so small and imperceptible that it would not permit further splitting of the group in the light of the cost of doing so.

[10] On his too, see section 4 on page 32.

[11] On the theory of progressive interventionism, see Mises, 1996, Hayek, 1944, McKie, 1970.

but instead a product of individual's choice based on preference.

This means that the case for government engagement in this issue must be advocated on other grounds, namely on paternalistic premises.

However, in order to proceed with the analysis of the fat tax proposal, we will from now on simply take for granted the following: obesity is either an externality or a disease that needs to be addressed by government policy and the fat-tax is a plausible means to mitigate it. Finding out just *how* plausible and effective a means it is will be a subject of the next section.

3. Benefits and Costs of the fat-tax

Every economic analysis, whatever is its focus, is based on juxtaposition of benefits and costs. Their mere identification and sorting[12] will help to find faults with many opinions and proposals that gained their acclaim because people's evaluations of them are one-sided or otherwise biased. Thus, in order to judge the desirability of the fat-tax, one cannot proceed without pointing out and properly considering both benefits and the cost factors.

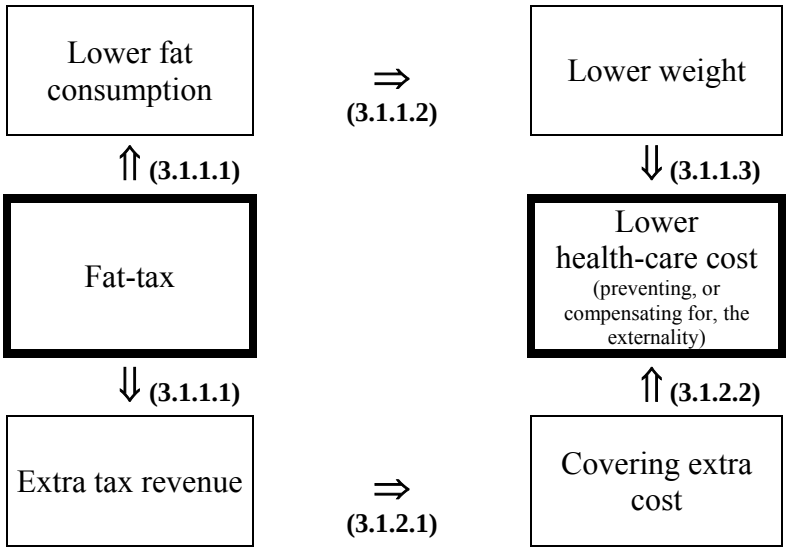
3.1 Benefits

Benefits of the prospective tax on fat – as opposed to its cost – are relatively easy to identify and are known quite well as they are extensively cited in support of the proposal.

The prime benefit of the fat-tax (which seems to be the ultimate source of concern and the rationale for it) is the *lower health care cost*. The mechanism through which this is supposed to happen is quite simple: by increasing the price of food containing fat, the tax induces people to

[12] See note 14 below.

decrease the caloric intake which reduces the average weight in population which in turn diminishes the cost of care of obesity-related health problems. This relies on the fat-tax as a deterrent from causing the externality. An alternative route through which the fat-tax may contribute to a similar end is to yield revenue that can be used to cover the extra health-care cost of treating obesity-related problems. In this case, the fat-tax is relied on as a generator of revenue to remedy the existing externality. These two alternative, but mutually exclusive,[13] benefits are depicted in the following diagram:



To quantify, even vaguely, what the saved health-care cost may amount to is an extremely complex empirical

[13] The effect of the tax cannot be both deterrent and revenue-raising. It cannot effectively decrease consumption of fat food and, at the same time, generate substantial revenue to cover the extra cost imposed by obesity and overweight.

problem we cannot pretend to be solving here. It involves multidisciplinary analyses, each of them highly contingent on place and time, and likely to be unreliable as it comes from biased source advocating particular policy stance.[14]

Without engaging in such an enormous task, let us proceed on the premise that there *are* plausible economies to be derived from the imposition of the fat-tax.

Before we turn to costs of the fat-tax, however, it has to be pointed out that there may be some important slips between imposition of the fat-tax at the beginning and lower health care cost at the end. Let us see then where the above mechanisms may not work as expected. We look at each mechanism – both deterring and fiscal – in the order of appearance.

3.1.1 Fat-tax as deterrent

Examining the chain of reasoning in favor of fat-tax as a means to reduce health-care cost through deterring from consumption of fats, one can identify problems at each of its links.

3.1.1.1 Higher tax, less fat

The first link in the chain of reasoning is the assertion that higher price of fats will induce people to consume less of them.

High-fat food, as unhealthy as it is supposed to be, is demanded for its good taste. Though not addictive, one can conjecture that demand for favorite tasteful food will be quite inelastic. This is the case of other "sinful" commodities that too are known to hinder health but whose consumption people give up only very reluctantly. The

[14] On the intellectual trappings of cost and benefit analyses, see e.g. Boettke et al., 2003, p. 14.

relative inelasticity conjecture is all the more so justified as the tax would be imposed on a large variety of foodstuffs, which will make it more difficult to substitute the taxed food with something else.

Should the demand indeed turn out to be relatively inelastic, it will have the familiar consequences for the power to influence quantity through price. In order to trigger substantial cuts in quantity of fat consumed, the fat-tax rate would have to be set rather high, similar to excise taxes on alcohol, which easily double or triple the price of such commodities to consumers. This, however, may not only be politically untenable but may also cause additional problems that could mitigate the partial benefits of the tax.[15] Unless the fat-tax is set high enough,[16] it may be expected to bring about only a very moderate reduction in the quantity of fat consumed, and the ultimate end (and benefit) will not be obtained.[17]

3.1.1.2 Less fat, lower weight

Even if the first link is empirically shown to hold the initial part of the story together, the mechanism might not produce the desired outcome due to the weaknesses in the second link: the implication that lower fat consumption will lead to lower weight in population.

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[15] See section 3.2.1.

[16] Detailed proposals of and precise rates of the fat-tax are extremely scanty as yet. Authors typically zero in on exhortations that something must be done and list a myriad of measures, a fat-tax among them (see e.g. Nestle, Jacobson, 2000).

[17] This catch (and the next one, too) could be avoided by claiming (as some indeed do) that the less elastic the demand, the larger revenue will the tax yield, and that this revenue might then be used to cover the cost of treating obesity-related health problems. This seems to be relevant only for the externality argument in favor of the fat-tax. For reasons why this kind of reasoning has also its weak links, see section 3.1.2.

The robustness of the second link is dependent on people's reaction towards the tax. It does not automatically follow that cutting the consumption of fat will be the end of the story, i.e. that people will simply eat less, and as a consequence, lose weight. The fat-rich food in people's diet is likely to be substituted by higher consumption of other ingredients. And there is no reason to suppose that these will be necessarily low-caloric and healthy. In fact, it is not very unlikely that people would substitute fat in their diets for something similarly contributing to weight gains. For instance, the place of fat can be taken by sugar – also an tasteful and hard-to-give-up ingredient – which, after the fat-tax is imposed, will appear comparatively cheaper and hence more attractive to the consumers.

Also, even if the switching to other weight-contributing ingredients was prevented by an analogous tax (a "sugar tax"), it is possible to switch to comparatively cheap foodstuffs and enjoy *greater* quantities of them. In short, taste (an attribute of unhealthy and thus taxed food) can be substituted by quantity (a further variable in the consumer's utility function), and that can in the end be of the same consequence as the consumption of foodstuffs taxed for its unhealthiness.

Should this be the case, the fat-tax lowers the consumption of fat but fails to deliver the reduction in the weight, which is necessary for the achievement of the ultimate goal.

3.1.1.3 Lower weight, lower health-care cost

Lastly, even if it is granted that the tax will bring about both lower fat consumption *and* lower average weight in population, it is still premature to conclude that the end of the tax is achieved.

In order to produce the reduction in the health care cost, it does not suffice that the individuals on average lose weight – it must be the overweight and obese individuals, whose treatment strains the health care budgets. These people, however, may turn out least sensitive to the changes in the price. It is precisely ardent food fans (representing by assumption[18] the great majority of overweight and obese people) that will find it hard to forgo their fat consumption. Far more sensitive to the price will be those individuals who can more easily restrain themselves from eating food rich in fat. But these will be generally individuals who are not overweight in the first place and who are not imposing extra cost on the health care system. This is parallel to the way that excise taxes on alcohol do not reduce alcoholism, despite the fact that they reduce the amount of alcohol consumed. The problem is that the targeted group turns out to be the most immune to this kind of incentive program.

Should it be the case that overweight and obese individuals are indeed the least responsive to the increases in price, the fat-tax can reduce the average weight but is found wanting in doing the task it was designed to accomplish: reducing the weight (and the number) of overweight individuals. Failing to do this, it must naturally fail at reducing the health care cost.

3.1.2 Fat-tax as revenue-generator

The logic of the fat-tax as a source of revenue has less slips in terms of quantity, but they are no less serious. Its only property one can safely rely on is that it works exactly to the extent that the fat-tax *fails* to work as consumption deterrent. The first link therefore need not be examined separately – it *is* sound as long as the first objection to the

[18] For the ramifications of this assumption, see note 3 above.

fat-tax-as-deterrent mechanism is found relevant (see section 3.1.1.1). Thus we proceed directly to the second link.

3.1.2.1 Extra revenue, higher health-care resources

The increased government revenue the fat-tax brings about may surely be funneled into the health-care sector. The trouble is that there is nothing that guarantees it will and, in fact, it is likely that it won't.

The fat-tax revenue, as every other tax revenue, is by its nature non-specific and the government can thus use it to cover just as well any other expenses it plans to make – not only its expenses on health care.

What matters in this respect, however, are not the absolute amounts of money on either side of the budget, but what happens on the *margin*, i.e. what is the likely purpose the government will use this additional revenue from the fat-tax. To understand this, it may be helpful to look at recent increases in taxes on alcohol or tobacco, whose ultimate rationale is very similar to that of the fat-tax. Upon examination of these cases it becomes clear that the revenue generated by these tax hikes was used for covering various kinds of budget expenses, and their contribution to health-care budget was less-then-proportional.

Believing that the extra revenue would indeed be used in health care is to ignore the nature of redistributive government of the modern welfare state. The *real* reason – notwithstanding the rhetoric – behind most of the taxes is not Pigouvian (i.e. one remedying the externality) but purely fiscal: the desire to raise as much money as possible and channel it into politically preferred uses.

3.1.2.2 Higher health-care resources, compensating the externality

Even if we – against all odds – take it for granted that the fat-tax revenues will be allocated to health care, this would still not necessarily mean that the problem of externality is successfully solved. This is mainly because those who consume food containing fat, and therefore pay the fat-tax, are not necessarily the same people who burden the health care system through their obesity-related problems. To the extent, for example, that there are people who eat fat and still avoid being obese on one hand and people who are obese for different – untaxed – reasons then consumption of fat on the other, the fat-tax works in a perverse fashion: it makes some people pay for the treatment of other people in exactly the same way the fat-tax was intended to prevent. The fat-tax then may partially mitigate one instance of externality only to exacerbate another one.[19]

Thus, even under the most favorable circumstances, ensuring that tax proceeds will actually be devoted to treating obesity-related problems, there is no guarantee that the externality – the most plausible ultimate economic justification of the fat-tax – will be removed.

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Listing the above points cannot be taken as a disproof of the plausibility of any benefits of the fat-tax. It merely puts them in a more realistic light and shows how uncertain and contingent these benefits are. Let us now finally turn to the cost side.

[19] This is a consequence of the fact that the fat-tax to fight obesity is mis-targeted. For more on this point, see section 4.

3.2 Costs

While most of the analyses of the fat-tax revolve round the benefits, the costs of the prospective tax are widely ignored.

As any other tax, the fat-tax makes both consumers *and* producers worse off by driving a wedge between the seller's price (the amount of money the seller ends up receiving) and the buyer's price (the amount of money the buyer ends up paying). Now there are two familiar reasons why both sides of the fat trade are worse off after the fat-tax:

1) Lower price for the seller (higher price for the buyer) means transferring part of his benefit from trade – the producer (consumer) surplus – to the government in the form of the tax revenue.
2) Lower price for the seller (higher price for the buyer) induces the seller to supply (or, the buyer to demand) *less* than before the tax.

The first factor is conventionally considered a mere transfer from private citizens to government and is therefore usually missing among costs. While this is formally correct (and it even tallies with the idea that fat-tax yields be used as compensation for the obesity-related cost), it should be noted that the neutrally sounding "transfer" has a very real effect on distribution of wealth and incentives to create it. Flatly ignoring all the ramifications of the political process pointed out by public choice theory, the concept that "transfers do diminish the welfare" is built on the assumption the government can and will spend the money in a socially optimal way. In the overall picture and in the long run, it simply *does* matter whether the dollar is spent by the individual who earned it, or it is spent through the political process. The benefit of an average individual from the marginal dollar paid in taxes is likely to be substantially lower than the benefit that would have accrued to him were

he allowed to keep it. Thus, there *are* real costs associated even with this transfer to government, however complicated might be their assessment.

The second factor, on the other hand, is traditionally and correctly considered a pure cost. It is the benefit taken away from private individuals that government cannot "recapture" in the form of the tax yield. Admittedly, the scope of this cost will be diminishing with the higher inelasticity of the demand, whose likelihood was invoked above. However, once we assume there will be any reduction at all in the quantity of fat consumed, the cost will be present and will rise at a square pace to the rise of the fat-tax rate.[20]

These costs above are associated solely with reaction of buyers and sellers of products containing fat. To these one must add a very substantial item consisting of costs associated with designing, running and supervising the system. As fat is contained not only in a wide variety of foodstuffs, but also in many products not destined to be consumed, and these commodities are in many cases home-produced (especially in the country), the system will have to be enormously complex, much more complex than the excise tax on alcohol for instance. Also, this cost would affect not only the government agencies, but the producers as well, since the administrative cost of complying with the fat-tax legislation would be partly passed on to them.[21]

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[20] I.e. if the fat-tax rate is doubled, the cost quadruples; if it is tripled (e.g. if it rises from 1.5 per cent to 4.5 per cent), the cost then rises nine times.

[21] The magnitude of all these costs would be even exacerbated by attempts at curbing the tax avoidance and black markets that are likely to emerge (see below). This process will be progressive and recursive as the black-market participants will always adjust to new laws and vice versa. This has been happening on all markets for commodities subject to high taxation – alcohol, tobacco, fuels…

Besides these standard costs, directly associated with any tax, one can isolate some additional cost factors that follow from the impact of higher prices of fats upon individuals' behavior. The list of such factors cannot conceivably be exhaustive, and we therefore mention only the most obvious, relevant and likely.[22]

3.2.1 Lower fat, higher cost

The whole rationale of the fat tax, as discussed above, is to decrease the health care cost by decreasing the expenditures for treatment of obesity. However, it can be shown that the tax may create additional cost elsewhere in the health-care sector.

As was hinted at before, the fat-tax (by taxing food demanded by all consumers) does not target solely the ones whose consumption it is designed to reduce, i.e. the overweight and obese individuals. Consequently, it changes the behavior even of those individuals whose fat consumption should *not* be changed, and doing so may produce malnutrition-related health problems and thus extra cost for the health-care system as a whole.

That such scenario is no fiction can be illustrated by the fact that even today, there are sizeable portions of population officially classified as food insecure – and that is the case even in developed countries – the very countries where the problem of obesity is said to be most pervading.[23]

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[22] One, rather amusing, example of a cost we will not put much relevance on (*despite its theoretical existence*!) is the fact that reducing obesity must necessarily add up to the problem of global warming! (See McCormick, 2004)

[23] In the United States for example, in 2001, over 10 percent of households were considered food-insecure, one third of which facing hunger (see Statistical Abstract, 2003; for details, see Nord, Andrews, Carlson, 2002, p. 9).

Imposing the fat-tax in developing world to cure obesity would have even more serious consequences. Moreover, the negative impact of the fat-tax on proper nourishment is the more likely the higher are the increases in price of food brought about by the fat-tax.[24]

An alternative reason why a fat-tax lead to cost increases in health care lies again in its effect upon one's behavior. Lowering one's weight through decreased food consumption, induced by higher prices of it, might result in people substituting the feasting with alternative pastime activities that might negatively impact upon their wealth. Most significantly, as routinely happens to dieting individuals, people may turn to smoking.[25] Thus, lower cost of treating obesity-related problems may be obtained to some extent in exchange for an increased cost of treating smoking-related health problems.

3.2.2 Higher price, black market and its corollaries

A fat-tax, just as every other tax, will also create incentives to evade it, and the higher the tax rate, the stronger will these incentives be. To counter these incentives and prevent this from happening, the government is likely to come up with elaborate system of approving, monitoring and checking the production and distribution processes. Creating such system and running it gives rise to an additional cost that does not limit itself only to the

[24] We have shown above that if the tax is to reduce the consumption significantly it would have to be set high enough in order to overcome the relative inelasticity of demand.

[25] After all, it is a well-known empirical fact that a drop in smoking, induced by raising the cost of it, coincides with the rise of obesity. Thus, fighting obesity, to the extent to which it is effective, may well return the balance back towards smoking and the goal of reducing health care cost may then be frustrated.

government but to all who will carry the burden of it (e.g. distributors waiting in line to be inspected at the border, producer having to comply with inspection procedures etc.).

Furthermore, as tax evasion requires unofficial and unapproved transactions with little possibility of recourse to legal settlements of possible disputes, grey and black markets are traditionally associated with crime and violence. Curbing such phenomena necessitates, and their unsuccessful curbing resulting in harm of property or person means, further cost – a cost that would not exist without the tax.

Finally, the more burdensome the tax will be the more likely it is that also the *quality* of the products on the unofficial market will be inferior compared to the products made and distributed in a system without the fat-tax. As fantastic as it sounds, it is not altogether inconceivable that e.g. smuggled butter sold by Vietnamese vendors at a food mart be inferior to currently produced butter. Lower quality of the fat products may of course translate into the very opposite of the aim of the fat-tax: additional health care problems (not necessarily only obesity-related) and extra health-care cost.

3.2.3 Adjustment costs

Lastly, by virtue of changing the relative prices, the fat-tax initiates a change in the economy's structure. By making fats more expensive, it would start turning the productive resources away from production of fats to production of some substitutes. This obviously entails a need for an adjustment: closing down, downsizing, changing jobs, technologies and places. And as every adjustment to new and unplanned conditions, it would be costly.

Although this cost is admittedly only a temporary one, it can – by throwing whole sectors of the economy into disorder – end up being quite sizeable.

3.3 Costs and Benefits Compared

Enumerating the benefits and costs of the prospective fat-tax could be followed by a verdict consisting simply in comparing what is greater. Such course is at this point obviously impossible as we did not attempt to quantify individual items and hence have nothing to compare right away.

This, however, does not mean we cannot say anything meaningful about the desirability of the imposition of the proposed fat-tax.

First, contrary to the common impression, we have seen that the benefits of the fat-tax are dependent on a multiple assumptions on a multiple level, which makes them far less certain than is usually believed. At the same time we have seen there is a multitude of very likely and real costs, a fact that rarely gets noticed, especially in media campaigns in favor of the fat-tax. Thus it follows – as a first approximation – that the case for the fat-tax is much weaker than it may seem.

Second, and more fundamentally, many of the slips on the benefit side and items on the cost side of the balance are necessary consequences of the fat-tax *without* being a necessary part of the solution the tax is meant to provide to the problem of obesity. In other words, while the costs and uncertainty of the benefits are *specific* to this kind of tax, the problem might be tackled in such a way that these costs and uncertainty of benefits can be largely avoided. This is extremely important as it can be clearly shown that *even if* somebody could prove (despite the great complexity of the task) that the balance of the above cost and benefit factors

speaks in favor of benefits, the fat-tax would still *not* be advisable and desirable policy because the same end could be achieved at lower cost.

This important insight brings us to the way that market failures should be addressed by government policy.

4. The policy as a second-best solution

Generally, as a rule, every problem that government policy strives to solve should be addressed as close to the root of the problem (i.e. its cause) as possible. The farther removed is the focus of the policy from the cause of the problem, the costlier is its solution.

Now the trouble with the fat-tax is precisely that it does not target the ultimate source of the problem but a subsidiary aspect of it. Let us assume that the problem that needs solving is the externality.[26] To repeat, the inefficiency here lies in people not taking into account the cost of treating obesity-related health problems and being consequently "too much" overweight.

The solution then must concentrate on making the health care cost *internal* to individuals when they make decisions about their lifestyle. As was pointed out above, this is exactly what the system of private health insurance would tend to assure, as people with less health-conducive lifestyle would be charged higher premiums than individuals with more health-oriented lifestyle. It is important to note that insurance companies would use a multitude of criteria to differentiate among their customers and would in no way focus *exclusively* on people's diet. Under such circumstances, the cost would be as much internalized as possible and there would be no reason to worry about other

[26] Such assumption is a graceful one towards the advocates of the fat-tax. As we have seen above, it is the most (and almost the only) meaningful justification of the need for intervention.

people's weight, just as there would be no reason to care that other people smoke, drive unbuckled, or climb rocks.

If it is impossible to solve the problem but not creating it in the first place – which should be clearly considered as best solution, let us see what possible solutions there are in the second. After ruling out taxation of people who actually are cost factors, the second best solution is to tax all the phenomena that lead to higher cost. Focusing only on the obesity-related cost is itself a distortion and is thus much inferior as a solution of the whole externality problem. Setting this aside, if we define the problem only as an obesity-related externality (and as far as its existence is taken for granted), then the people who should be charged in order to internalize the cost are obviously people who *are* overweight and obese. In other words, if it is true that the problem is obesity, then the most direct approach to mitigate the problem is to tax obesity. The more obese an individual is, the more of a burden he is to the health-care system, and the more he should pay to compensate for it.

It is only after we define this too as an impossibility that we come to a next (i.e. the third) best solution – taxing the activities that lead to obesity: eating and not exercising, and possibly others. In this light, the fat-tax, setting aside the practical problems with its construction, is at best only a part of a third best solution. And as such, there is no wonder that it creates externalities of its own. For example, people who eat a lot *and* exercise, end up costing the health-care system *less* but contributing to it *more* than people who eat less and do no exercise. In fact, tackling obesity-related health-care cost with a fat-tax makes about just as much sense as just as if the environment pollution was tackled by taxing cars, which *may* create pollution, rather than gas, whose *burning* does create it. Or, to put it just in another perspective, the fat-tax is as much inferior to the obesity-tax

as a tax on entering a fast-food restaurant would be inferior to the fat-tax.

5. Conclusion

In this text we set out to examine the economic reasons for dealing with the obesity issue and attempted to assess the desirability of a fat-tax as its solution.

We have found out grave defects in the reasoning in favor of a fat-tax at several levels.

First, we pointed out the lack of reasons to believe that obesity is a problem that needs solving, much less a public one.

Second, even after granting obesity the status of a problem, we hinted at a lack of serious evidence that the major cause of this problem lies in people's diet.

Third, even after discarding the above doubts, we showed that the fat-tax is likely to produce much less benefits and much more cost than is commonly expected, thus establishing a real possibility that there are no net benefits to be rendered by the tax.

And lastly, fourth, we invoked the theory of second best solutions to indicate that even if there were some net benefits of the fat-tax, it would provide an inferior solution to the problem as it addresses a phenomenon (i.e. fat consumption) that is farther from the cause of the problem than others, which should more properly be subject to taxation.

In sum, on economic grounds, the fat-tax does not appear to be a policy worth pursuing. If obesity constitutes any problem at all, the fat-tax is at most a very clumsy instrument to fight it: the solution must decidedly be sought elsewhere.

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