

How justified is the implementation of a meat tax?¹

Thomas E. Randall

Abstract

This paper seeks to examine the justifiability of the implementation of a so-called “meat tax”, recommended by a report published January 2014 in *Nature Climate Change*. According to the United Nations Food and Agriculture Organisation (2006), meat-production contributes up to 18% of all human-caused global greenhouse gases. It is claimed that introducing a tax on meat would effectively reduce this percentage by forcing change in consumer habits. I argue that the implementation of a meat tax is unjustifiable because of its foreseeable futility. If we wish to effectively change consumer behaviour regarding meat-consumption, what is of upmost importance is to foster a genuine attitude toward environmental protection within consumer behaviour. Not only will a meat tax fail to achieve this goal, it is also highly doubtful the implementation of this policy would even reduce meat-consumption in the first instance.

There is a widespread consensus amongst the scientific community that the rate of the changing climate we are witnessing is anthropogenically caused (Cook *et al.* 2013). Given this is the case, an optimistic response begins with the recognition that reducing emissions of anthropogenic greenhouse gas output into the atmosphere could help mitigate the worse of the change many global communities might endure.² One primary sector of the economy that has oft been overlooked as a considerable source of greenhouse gas output within climate policies has been that of the meat-production industry (Wirsenius *et al.* 2011; Nordgren 2012; Ripple 2014). The proportion of greenhouse gas emissions within this sector in relation to total anthropogenic greenhouse gas output ranges, depending on which study one examines. A conservative estimate looks to be in the region of 10-12% (Friel *et al.* 2009), in contrast to the outermost being between 25-30% (Wirsenius *et al.* 2011). Somewhere in the middle of these approximations we find the United Nations Food and Agriculture Organisation’s (2006) assessment of meat-production accounting for 18% of all anthropogenic greenhouse gases. To put that into perspective, 18% is just over the combined emissions of all the world’s cars, planes, and trains. Given meat-consumption looks set to keep increasing (even potentially doubling from today’s demand by 2050 (Steinfeld *et al.* 2006)), the meat-production industry requires an urgent examination on the state of its emissions.

The question that has arisen is how we are to reduce meat-consumption behaviour to decrease the level of greenhouse gases emitted from the meat-production industry. Many authors have suggested that a so-called “meat tax” would serve this purpose (Wirsenius *et al.* 2011; Nordgren 2012), with the most recent call for this policy implementation coming from a study published in January 2014 by *Nature Climate Change* (Ripple 2014). I will argue against the claim that an implementation of a meat tax is justified, because of its foreseeable futility. In doing so, I outline my argument in this paper as follows. First, I explore why these authors believe a meat tax would be justified, and the logistics of how it might be implemented. I then provide two major reasons why I think this position is flawed with regards to policy-making. I end by offering some helpful alternatives to a meat tax that I believe will be far more successful.

¹ To be read at the ECPR General Conference at Glasgow University 2014.

² These greenhouse gases include carbon dioxide, methane, and nitrous oxide.

Let us begin, then, by looking at why certain authors have argued a meat tax would be justifiable. Worldwide, ruminants (cattle and sheep) are the source of 11.6% – with just cattle being 9.4% – of all anthropogenic greenhouse gas emissions (Ripple 2014). Perhaps most worryingly is that ruminants alone are accountable for the largest anthropogenic emitter of methane into the atmosphere, a greenhouse gas over 20 times more potent than carbon dioxide. Non-ruminants (pigs, poultry, and fisheries), though having a lower carbon equivalent footprint, “still average 3-10 times greater than high-protein plant foods” (Ripple 2014, 3). Countering the meat-production’s contribution to greenhouse gas output is therefore worthwhile, to help toward mitigating the climate effects caused by the livestock sector. The suggestion is that a meat tax in the form of a Pigovian tax – or a “sin” tax – would help restrict these negative externalities that result from increasing market demand for meat. In this way, the meat tax would work as similar to the taxes on cigarettes or alcohol.

Why propose a tax as a policy method? There seems to be a level of pessimism amongst many authors that voluntary dietary changes required to reduce greenhouse gases within the meat-production industry would be too shortcoming. Anders Nordgren (2012) argues that “[g]eneral changes in lifestyle in the population would probably require coercive measures” (2012, 110), like a meat tax, because too few people would make any significant change to their diets within a short space of time (see also Alcott 2008). A meat tax is thus justified as a potentially “economically sound policy that would modify consumer prices and affect consumption patterns” (Ripple 2014, 3). It is similarly hoped, as a result, that this meat tax will act as a gateway to help raise awareness about the environmental impact meat-consumption contributes toward. This would turn into genuine consumer concern as the meat tax became normalised. Furthermore, from an anthropocentric point of view, a widespread reduction in meat consumption could also have the pleasant side effect of improving the nations health as well (White and Frank 1994; Key *et al.* 1999; Nordgren 2012).

A meat tax is therefore supposed to be justified, for these above reasons. The next important question, however, is asking how we might go about implementing a successful meat tax policy. Generally two views are offered, with one being largely discredited: that is, either we put a tax on meat-*production* (adding the tax onto the supply-side of the livestock sector) or meat-*consumption* (adding the tax onto the price of the final good). Each author I have found on this subject recommends the latter option here, with Nordgren providing the best account as to why. A tax on meat-production, it is claimed, is “virtually impossible in practice” (Wirsenius *et al.* 2011) because of one main reason: “high monitoring costs” (Nordgren 2012, 578). The measurement of methane and nitrous oxide from farms would have to be a continual process, by which measurements of significant samples of different animals would “need to be carried out regularly” (Nordgren 2012, 578). The scale required to do so, alongside the measurement of even bigger differences in emissions of nitrous oxide from the soil in large portions of the fields, is an enormous technological task to carry out nationwide. Instead, it is far more efficient to put a tax on meat-consumption (Nordgren 2012).

How should this tax be implemented effectively on meat consumption? Stephan Wirsenius *et al.* (2011) posit that a meat tax should be applied differentially. That is, given ruminants contribute a larger proportion of greenhouse gases into the atmosphere, meat from cattle and sheep should be taxed at a greater percentage than what we might tax non-ruminant meat: generally, ruminant meat should be taxed at 16%, pork at 5%, and poultry at 4% (Wirsenius *et al.* 2011). Price elasticity of demand comes into effect here. For given ruminant meat is an elastic good (Gallet 2010), placing a tax on this product would see consumers substitute it for other goods. As ruminant meat is where most concern is directed due to its larger contribution of greenhouse gases, it is believed the meat tax thus offers a good way toward reducing overall emissions from the livestock sector. As Wirsenius *et al.* calculates:

A tax scheme of differentiated consumption taxes on animal food equivalent to €60 per ton CO₂-eq is estimated to lower emissions from food production by approximately 32 million tons CO₂-eq, which corresponds to about 7% of current GHG emissions in EU agriculture (Wirsenius *et al.* 2011).

We have now seen why it is thought the meat tax would be a successful implementation, justified through its reduction of greenhouse gases. However, I am not so sure this justification is particularly convincing. In what next follows, I present two major concerns I see with regards to the implementation of a meat tax: (1) whether the tax will actually succeed in achieving the results Wirsenius *et al.* calculate, and (2) that there has been an apparent lack of concentration on the sociological effects this tax could resultantly cause.

Let us begin with my first concern. We saw that a differential meat tax was recommended, which, in turn, exploited the price elasticity of demand for ruminant meat. With less demand for ruminant meat, it is hoped the greenhouse gas emissions from cattle and sheep would be reduced. I am sceptical this will be the outcome, however. I concede that ruminant meat is an elastic good; Craig Gallet's (2010) detailed meta-analysis on the price elasticity of demand for this product tells us this much. However, Gallet also tells us another story: that non-ruminant meat is an inelastic good. That is, while demand for ruminant meat might fall, it will be substituted for non-ruminant meats instead. Recall that non-ruminant meat production still emits a significant proportion of the greenhouse gases from the livestock sector; "pigs and chickens are also fed with oilseed, and oilseed production (soy) is linked to high carbon dioxide emissions from land use change (deforestation, mainly in Latin America)" (Nordgren 2012, 579; see also Garnett 2009). If the demand for ruminant meat shifts toward non-ruminant meat, then I postulate the gases emitted from non-ruminant meat production will then be set to increase; the burden of emissions will only shift.

If this is the case, and I think we have good reasons to think so if Gallet's study is correct, then I question how successful the meat tax would actually be in achieving its aims. For a practical problem now arises from this implementation of a differentiated tax. As the proportion of demand changes from ruminant to non-ruminant, so the percentage of tax will also have to change. If non-ruminant meats are inelastic, then a significant increase in the meat tax on this good is necessary if we are to come close to reducing its demand. I do not know what percentage this tax should be levied at before it would begin to be effective; but I can infer that if Wirsenius *et al.* believed a 14% tax would be required to reduce demand on an elastic good, then the percentage tax will need to be far higher than this to see the same results on an inelastic good – and therefore far higher than any calculation made previously if greenhouse gases are going to be reduced significantly.

This brings me to my second concern. If I am right in saying the meat tax would have to be implemented at a very high rate to reduce demand on inelastic meat products, then I worry how likely the sociological effect from this will be that consumers adopt a genuine concern for environmental protection. Recall that advocates for the meat tax believed it would act as a gateway to raise environmental awareness. I do not think this will be the case; instead, I believe a consumer backlash will centre on the socio-economic outcome of its implementation. That is, poorer consumers would more likely focus on the significant proportion meat, as a necessary good, would have on their income, rather than actually caring about the levels of greenhouse gases meat-production causes. While it may be argued meat should be a luxury good anyway, this does not distract from the point that the meat tax alone will not serve to provide greater identification about the environmental effects of meat-production its implementation is meant to promote. As such, I do not think we will see any

politician in the near future recommending this tax as a serious policy, given its likely unpopularity.

This point has not gone unmissed by advocates of the meat tax; but their response has been weak at best. For instance, Ripple *et al.* writes, “social justice, equity and food access issues need to be carefully considered” (2014, 3). However, this is the only reference Ripple *et al.*’s paper makes on this issue, with no further depth explored. It is my opinion that if we are to genuinely influence consumer behaviour to adopt concern for environmental health and animal welfare, then we should not first distract attention away with a socio-economic issue the meat tax could cause.

Let us, then, move onto the final part of this paper: in what ways are we able to infuse a genuine concern for the environment and lower meat consumption, without need for a meat tax? I present two reasons: (1) improving public awareness on greenhouse gas emission from the livestock sector, and (2) a greater effort toward adopting better farming methods.

First, recall in my introduction that the livestock sector has been largely overlooked as a serious contributor to greenhouse gas emissions. Many commentators on this issue have noted how “the relative neglect of this greenhouse gas source suggests that awareness of its importance is inappropriately low” (Ripple *et al.* 2014, 2). If this is the case for serious studies being published on the issue of greenhouse gas emissions, then I posit we cannot expect the general public to be totally informed on this issue either. Indeed, I think it is clear that a severe lack of public education exists on this matter. Fortunately, I am not the only one to make this point, with many other authors also being sympathetic to this concern. Melanie Joy’s (2010) work points to the gap in our consciousness between being aware of live farm animals and then eating their meat on the dinner table. Largely, we remain unaware about what goes on in the middle – that is, the actual production of meat (Luke 2006). This includes not only what happens to the animals (though this is a major cause for concern) but also the mechanical processes and amount of greenhouse gas emissions that result (Lea and Worsley 2008; Tobler *et al.* 2011). To throw a meat tax into an predominantly uneducated society about the meat production system is a shot in the dark – we must first begin by inducing a firm state of awareness.

One of the best ways to do this (though there are plenty others that I do not have time to discuss here) is through utilising non-governmental organisations (NGOs). This is because “[m]any NGOs [...] have the benefit of experience using multiple communications and advocacy tactics, including direct action, lobbying, and public education” (Laestadius *et al.* 2013; see also Cox 2013). Of course, other than animal protection NGOs, the issue on greenhouse gas emissions from the livestock sector has remained predominantly untouched: as Laestadius *et al.* (2013) writes, there has been a “general lack of formal campaigns” (2013, 32). What needs to happen is a coordinated campaign that recognises the reduction of meat in our diet is an important way to mitigate the effects of climate change. Of course, people are motivated to abide by certain dictates in a plurality of ways. While environmental protection is a key concern, it would not be a bad thing to reduce a diet of meat through health campaigns alongside this.

The second option to a meat tax, which can easily work in tangent with the first option just outlined, is better farming methods. Rather than just focusing on the consumption aspect, we also need to focus on the production side for a well-rounded policy initiative. Last year, the UNFAO released a comprehensive report that concluded greenhouse gas emissions from the livestock sector could be reduced by up to 30% without need of an overhaul of the production system (Gerber *et al.* (2013). Better-feed quality, and improving animal health are just two simple means to achieve this goal. Combined with public education, I believe this two-pronged approach would be far more successful than the implementation of a meat tax.

In conclusion, I have argued the implementation of a meat tax is unjustified. This was for two reasons: (1) I believe there will be little improvement in the reduction of greenhouse gases from the livestock sector owing to the price inelasticity of demand for non-ruminant meat, and (2) I worry its implementation will induce a consumer backlash centred on socio-economic issues. If we want to be serious about reducing greenhouse gas emissions within the meat-production industry, we should instead look to pursue greater public awareness and education programmes of the meat-production process (with a likely candidate to do this being NGOs), alongside the altering of current meat-production farming methods.

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