

## The economics of diet and health

In this episode of the podcast, we're joined by Dr Thijs van Rens, Associate Professor in the Department of Economics at the University of Warwick.

*Thank you for joining us today for the podcast. We're particularly focusing on your work around the economics of diet and health and obesity. Could you tell us a bit about your work in this area? Are people diets affected by their income levels in the price of food?*

So this work we've been doing over the past few years, is in the context of the big question -if you like- whether poor diets and deteriorating diets, and consequently obesity and the obesity epidemic, are largely due to people's choices, preferences, order due to the environment, broadly speaking. And what I mean by environment is anything that is not under your control, that makes you make choices, or tricks you into making choices perhaps.

This is an important question because it gets to the issue of personal responsibility. There's a good number of politicians, policy makers that will have you believe that the government should not do much when it comes to obesity or poor diets, because people are eating these bad foods because they like them. So if you were to intervene and change their choices, you're not necessarily making these people better off or happier. And so what we what we argue in our work is that there is a bit of both going on. There is a role for preferences in these poor dietary choices, but there is also a large and important role for the environment. In particular, we focus on prices, prices of different types of food.

So, what, the way we come to that conclusion is we have very detailed data on purchases of different foods focusing on fruit and vegetables. And when I say purchases, I mean both the quantities that different households purchase, but also the price at which they purchased these foods. And what we find is that, on the one hand richer households tend to pay more for fruit and vegetables in relative terms. So that means there is a role for preferences because they are buying more fruit and veg, they're having a better diet, despite the fact that it is relatively more expensive for them. So that clearly has to do with preferences. And we argue that is likely to be the preference over quality, so it's not so much only that they buy more food and veg, but they buy different fruit and veg as well. They might buy kiwis instead of apples. And that of course makes it more expensive.

We also find and this is the new thing, and the more interesting thing, that households that live in poorer areas also pay relatively more for food and veg. Now that's the area, so this is not about individual households choices. This is the environment you face and this is of course important because it what it results in a situation where if you are relatively poor, you tend to live in a poor area and you'll then face prices that tend to push you towards an unhealthier diet.

*So is this the situation where if you're in perhaps an urban estate or somewhere that's not a prosperous area, you might be much more limited. You might have one corner shop, or you might have one particular supermarket, whereas if you are in a more prosperous area, you'll have, I don't know greengrocers, and perhaps something that comes round, a veg box system and is it partly accessibility?*

Yeah, absolutely, I think that the pattern that you're describing is very much a symptom of the same thing, the same issue: Why is it that in more affluent areas there is more choice of fresh produce and other healthy foods? While we argue is that there seems to be a fixed cost in the provision of these healthy foods, which tend to be perishable foods. And if there is a fixed cost, meaning there's a cost of setting up shop, it means that the more you can sell, the cheaper you can sell it, because you're

spreading out these fixed costs over a larger customer base. And that's the mechanism we argue, by which if you live in a less privileged or disadvantaged neighbourhood, you're surrounded by people with low budgets, who buy little fruit and veg like you. And because everybody buys little, there is little overall demand and each individual item is relatively expensive because somehow the corner shop that is still there either doesn't carry fruit and veg anymore, or otherwise has to charge a higher price for it in order to recover its costs.

*Is there, you mention a preference, that you are investigating whether or not people have preference for fruit and veg and their five-a day? Is there also a question of awareness, is that something that's come out in the data, that people do. People know that it would probably be better for them, but actually price puts them off.*

That's a very good question, and this is now no longer directly related to my own research, but it is a very good question that has been addressed in the literature. When I say preferences, I say preferences as an economist, which is almost everything that we can't see. And of course, that includes in this situation awareness and education. The reason I feel comfortable doing that, putting all this together in sort of a residual, or everything that's not environment, let's call it preferences. I'm comfortable doing that because there is literature by other people showing that awareness is not really the problem.

If you survey relatively poor households that eat very poor diets and you ask them "What is a healthy diet?", they're perfectly able to answer that question. They know what it is they should feed their kids, and they even feel that, they feel a responsibility to provide a healthy diet for their children, but they are for a variety of reasons not able to do so. And we're focusing on one of these reasons, which is the fact that it's simply more expensive for them, given the area in which they are likely living.

*So is there anything that can be done? It sounds like it, as a layperson, it sounds like it is supply and demand, almost that the demand is not there. The shopkeepers aren't providing, can or should the state intervene?*

Yes, it's again, it's a very astute question actually, because I think that you're correctly pointing out, is that it's a demand externality. In some sense, the problem is with demand, because the reason fruit and veg is expensive in poor areas is because demand is low there. So it's a bit of a chicken and egg problem. But it is an externality. The market is not doing its job. The allocation is not efficient. So yes, there is a role for government intervention, and in our work we're actually quite specific as to what that policy intervention can and should be.

So first of all, because the prices are off, the prices are wrong, it's possible to correct this, and the way you would do that is with a tax or subsidy. In particular, a subsidy on fruit and vegetables would work really well. Now there's a problem with that, and politicians are very aware of this problem, which is that rich people eat more fruit and veg. If you subsidise fruit and veg, that's like a subsidy for rich people, which is generally not what we would like to do. So it will make inequality worse.

You can fix that theoretically, by funding that subsidy with a tax and making that tax progressive, meaning you tax rich people more than poor people in order to then pay for a subsidy which benefits rich people more than poor people. Now theoretically you can do the math, and we did that, and you can show that such a combination of a subsidy on fruit and vegetables and a progressive tax can result in an allocation that makes literally every household in the economy better off. And this is again because there is an externality. So when you fix that, there is there is a

surplus being generated and if you are clever about allocating that surplus in the right way, then everybody is made better off.

*And that's purely an economic basis as opposed to, for example, people are more healthy, therefore they make less demands on health and public service.*

Excellent question again. No, that excludes the health benefits of this policy. This is purely everybody is better off in terms of what they want to eat. So poor people eat less fruit and veg than they would like to, or that they feel that they should, because it's relatively expensive. If you fix those prices, you make it relatively cheaper for them. They're better off without even taking into account the fact that they're going to be healthier as well, and therefore relying less on the health services. So that benefit will come on top of the consumption benefit.

The problem with the policy I just described is that it's very complicated. It's a theoretical possibility. So that's why we do one last thing in the paper, which is to think about a feasible policy that could replicate this, and we showed that a very, very simple policy gets very close, which is a flat subsidy on fruit and vegetables, the same for everybody, should be in the order of 18%, which is funded by a progressive tax. There is only one progressive tax in this country, which is the income tax. Luckily, the increase in the income tax you would need to fund a 20, or 18-20%, subsidy on fruit and vegetables, is very small. So we argue that this is a very practical recommendations that, if implemented, would make a real difference to people's diets. And consequently for obesity. We argue that this will get us close to half the way towards the recommended fruit and vegetable intake, and the current intakes are of course much lower than the recommendation.

*That's quite a hot topic, isn't it? Politically raising income tax? Have you presented that to MPs? Has it been part of your work as the one of the advisors, perhaps the Commons Select Committee on health?*

Yes, as you point out, I was an academic fellow at Select Committee for health and social care. And specifically, I helped them, together with somebody else, in their inquiry on childhood obesity. And in that capacity I did talk about fiscal measures in general, and specifically about a subsidy on fruit and vegetables. And I came to the conclusion that the obstacle for this policy being implemented is clearly a political one. There is a very strong aversion among politicians, in particular Conservative politicians, to talk about taxes as a solution for pretty much anything. I think that's potentially a real problem because, we do show that the subsidy-tax policy we propose makes everyone better off. So really there should not be a discussion about implementing this policy or not based on interest groups.

There is nevertheless, and I think this has to do with the emotional reaction people have to the word 'taxes'. Having said that, luckily in this field, and I'm guessing this is probably not true for other fields, but in the field of obesity in childhood obesity there is a lot of good-willing politicians still, or were at least in the recent past, who are willing to listen to solid research and evidence and who are genuinely interested in solving this problem. So I do have hopes that the second childhood obesity plan, which was passed just before Boris Johnson took over as Prime Minister, was a bit of a missed opportunity. And initially it looked very much like Johnson's government was, if anything, moving in the wrong direction. One of the very first things he said as Prime Minister, was something about how sugar taxes was not something he would ever want to consider. Of course we do have a tax in this country now on sugary drinks. But he does seem to have changed his mind a little bit.

*Yes, he said to have seen the light hasn't he from his Coronavirus experience.*

Yes, perhaps, and I very much hope that that's in fact the case and Because, let's be very clear about this: There is a very long list of policy proposals, some of which are now being implemented, or first watered down and then implemented, and I very much hope and I also think that some of these will have an effect on diets, and on obesity, but the evidence base can be shaky, and where there is good evidence each of these individual policy proposals has fairly limited effects. The thing that we know works, and works well, and has big effects, is subsidy and taxes. And as I said before, it's a purely political barrier that that's not being used more. This is a huge problem. The obesity epidemic is something that didn't exist 50 years ago. Obesity was a marginal problem 50 years ago. Now we're getting to a situation where almost half of our population is overweight. It's now by far the biggest cost to the NHS. This is a problem we need to tackle, and we're not going to tackle it with marginal measures. So I think the time has been ripe for a very long time to use the big guns, and the big guns are taxes and subsidies.

*You mentioned the need for sound policies based on evidence. Is that with a big part of the work you were doing with the Select Committee, can you just tell us a little bit about what your role was and how you found that experience of working with parliamentarians?*

Yeah, so they recruited us as academics specifically, I did this together with a public health doctor from Cambridge. And they recruited us because they wanted the input from academics. Of course we would both bring our own research to the table, so I submitted to the inquiry myself, even though I was also an academic fellow. But the largest part of our role was to go over the evidence that was submitted by a variety of other people and groups, and give our opinion on that evidence to the people that were responsible for putting it together for the MPs, that are members of the committee.

Which is a very, very interesting job because this evidence that is being submitted to these parliamentary inquiries is very diverse. There is the occasional individual who feels very strongly about the issue and decides to write a letter. There is a lot of lobby groups, corporate organisations, the representatives of the drinks manufacturers, of course, would submit to that to that inquiry. And then there is an even larger number of non-governmental organisations that I suppose you could call them lobby groups as well that represent sort of the public case, the case for further action. And it is very interesting to see these different submissions.

*And MPs themselves are not specialists, are there? So we were trying to help them weigh up what was in front of them.*

So first of all, they are definitely not clueless in this particular committee, when I worked for it. I would say that most of the MPs on the committee were actually quite knowledgeable on the topic. Many of them were medical doctors. And some of them specifically were experts on obesity. Sarah Wollaston, who was chairing the committee at the time, I would say is an expert on this topic. But of course they have their staff as well. So the clerk and deputy clerks are responsible for processing the evidence that is submitted into a coherent document with lots of citations, but also of course, input from them. And that's the step in the process where our input was largest I think, so we were more supporting the clerks than the MPs directly.

*Did a coherent set of recommendation to come from that work. Have you seen any of them make their way into practice yet?*

So the committee report that came out of that inquiry I think is very good, as was the one prior to it, as was the one prior to that, which was the first big inquiry into childhood obesity. And I think these reports are an accurate and an interesting reflection of the evidence that was submitted, which is a

good reflection of the evidence that is available, that is out there. Unfortunately, the government has lagged behind substantially with respect to the committee. If all the recommendations that were in the committee's report had been implemented, we would be in a very different situation now, But many were not implemented. Many others were first watered down a lot and then implemented. And there was virtually nothing in there I think that has been implemented as it was recommended.

*Is that frustrating to you? You see this good package of things that would make a difference, and they're just on the shelf.*

So, no, actually, but I learned something from this experience, which is that being a politician is a real profession. Politicians do something, which is very hard to do, and which I personally cannot do. So I'm an academic, and when I see a problem, I try to think of the best solution for it. A politician tries to think of the best feasible solution to a problem, or how to implement something that approaches the best solution, and that's a very different problem. And, obviously, some politicians are very good at this job. So I feel lucky that I am not a politician. I am therefore not responsible for making sure that the right policy gets implemented. It's much easier to be an academic and just think of the right policy without worrying about whether it's feasible politically or not.

*You've moved on from the Health Select Committee role. You're now involved with the University's global Research Priority Group on Food. Can you talk a little bit about what this food GRP aims to do and what work it is doing at the moment?*

Yes, gladly. The GRPs, or the Global Research Priorities are something that, I believe, is specific to the University of Warwick. I am not aware of another UK University that has something similar in place, and they are specifically designed in order to encourage interdisciplinary research. The purpose of the GRPs is primarily to bring together researchers from different departments, different disciplines, different fields. I think this is very important and it's very interesting.

Interdisciplinary work is not easy, it's really challenging. It's challenging because people speak different languages. It's challenging because people have different publication outlets in mind and get credit for different outlets, so that makes it hard. But it's also difficult because disciplines tend to be organised in Departments, so you're just physically far away. You never run into people who might be working on very similar things from a different field, from a different backgrounds. So the GRPs are intended to bring together these people from different departments. So, as an example, I worked a little bit on the sugar tax on sugar sweetened beverages with, at the time, an Assistant Professor from Politics.

Currently, I'm working on a more ambitious project with a variety of people from Warwick Medical School, from the University Hospital Coventry and Warwickshire, from Life Sciences, but also from Psychology and Warwick Business School. And there we're trying ... All of these people are already working on obesity, and the purpose of that interdisciplinary cooperation, which I organised and coordinate through the GRP, is to, is to think about different policy and different interventions I should say, to tackle this problem which might be in very different spheres. So my own work is probably most relevant for the national policy sphere, the national government. But there might be a role, there almost surely is an important role, for local governments, local authorities. There is almost surely role for schools. There is of course also a role for individual parents. There is a role for general practitioners. So these are all different spheres where you can intervene, and some of these spheres are intrinsically very much interdisciplinary. And it's been very interesting to work with people who are very familiar with the medical side of things, as a social scientist.

*So is that still in its early stages? Have you had any outcomes or publications from that group yet?*

It is somewhat at an early stage. We have made some progress and what we have done so far is we're running a survey on dietary patterns during the COVID pandemic. The first survey has already run and we have analysed the data and we're seeing something very interesting, which is a bit depressing. We see that diets seem to be deteriorating during the lockdown. And we think this is very important and interesting because of course we already know that being obese makes you much more susceptible to serious effects from COVID-19. We are now also finding that the policy response to COVID, which is a lockdown, deteriorates diets, so we're entering a vicious circle here where COVID is making the obesity epidemic worse, and obesity is making COVID worse. And the next step is hopefully a little bit more constructive to think about what we might do to get out of this vicious circle.

*Yes, I was going to ask if you saw any hope, because presumably it's not going to be a quick fix to reverse the steady growth in obesity it's not going to happen overnight.*

So what makes it very difficult is that it is not unambiguously clear what caused the obesity epidemic. But the vast majority of reasonable people that have thought about this problem think, are convinced, that the primary determinant is a deterioration in our diets. And you can think of that as we don't eat fresh produce anymore. Or you can think of it as we eat too much hyper-processed food. Or you can simply think of it as we eat too much calorie-dense foods or too much sugar, or too much fat, perhaps.

It's a pity that we're not exactly clear on the causes. But it should, and hopefully will, not stop us from doing something about it. And what makes me hopeful is that the problem is now so large, and it's going to be even worse due to the COVID pandemic, that we're going to have to do something. And I'm somewhat hopeful because this deterioration of diets and the shift from largely home-produced meals to processed food has been very rapid, and it shouldn't be impossible to also quite rapidly reverse this trend. And this can be done centrally, which makes it probably quicker. So I'm not one of those people who think that this is going to take a long time because we have to slowly educate the public. It's not about educating the public, it's not about making people aware. It's about heavy-handed government intervention that makes bad food expensive and good food cheaper. Combined, of course, with an information campaign for why we are doing this and for why it's fair to do this. And I am convinced that once the political will is there, we will be able to solve this problem relatively quickly.

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