



HOUSE OF LORDS

Revised transcript of evidence taken before

The Select Committee on the European Union

Energy and Environment Sub-Committee

Inquiry on

FOOD FRAUD AND THE INTEGRITY OF THE FOOD SYSTEM

Evidence Session No. 1

Heard in Public

Questions 1 - 11

WEDNESDAY 6 JULY 2016

11 am

Witness: Professor Christopher Elliott

USE OF THE TRANSCRIPT

Members present

Lord Teverson (Chairman)
Lord Cunningham of Felling
Viscount Hanworth
Lord Krebs
Lord Rooker
Lord Selkirk of Douglas
Baroness Sheehan
Lord Trees
Viscount Ullswater
Baroness Wilcox

Examination of Witness

Professor Christopher Elliott, Founder of the Institute for Global Food Safety and Pro Vice Chancellor Queen's University, Belfast

QI The Chairman: Professor Elliott, can I welcome you to the Committee? Thank you very much for coming. This is a formal evidence-taking session of the Committee and, as you know, it will be recorded and we will send you a copy of the transcript. If you feel there is anything wrong in the transcript, it can be changed. We are also being webcast live during the meeting. Perhaps I may also remind Members that if they have any interests they need to declare in relation to this particular subject, they should do so as, or just before, they ask any questions.

Professor Elliott, perhaps just for the multitudes who are watching us from outside, you could just very briefly introduce yourself. I do not know whether you wish to make any opening remarks or whether we can go straight in to questions. That is very much up to you if you want to but please make them fairly short so that we can get in to the interactive side of the session. Over to you.

Professor Christopher Elliott: Many thanks, Chair, and thanks for the invitation to come to give evidence today. My name is Chris Elliott. I am Professor of Food Safety at Queen's University, Belfast. I am also the founder of the Institute for Global Food Security at Queen's, and I am currently Pro-Vice-Chancellor for the Faculty of Medicine, Health and Life Sciences. The topic is around food fraud, and perhaps all I will give is a general definition of that. We are really trying to define what the problem is because you need definitions before you can start to take legal action. I describe it as the deliberate act to deceive, to cheat, in the selling

of food ingredients or products for economic gain, so it is all about making money out of the food supply system, in an unscrupulous way.

Q2 The Chairman: That is very useful and very concise. Thank you. Perhaps I can just start off generally and ask you what you feel the most common types of food fraud are and what sorts of food are targeted. Also, as we are a European Committee, perhaps I could also ask a supplementary question, slightly separately to that, about how you feel the European Union dimension fits into this whole issue, which we are obviously very aware of now within the UK.

Professor Christopher Elliott: The question you have just asked, Chair, is probably the question I am asked most often: which foods are most vulnerable? I play this game with my undergraduate and postgraduate students. I ask them to name any food commodity and I will tell them a fraud associated with it. If they ever catch me out, I say, “Well, you have no course work to do this week.” Nobody has ever got off their course work because every food is vulnerable. A lot of people think it is the very high-end things, like caviar and champagne, where there is fraud, but fraud is also associated with very low-value foodstuffs like processed meats. If there is any potential for making additional money, somebody somewhere will find some way of doing it.

In relation to the European dimension, I suppose the best example of that is what happened in 2013 in relation to the horsemeat scandal. That was very much a Europe-wide problem. I think 23 member states all reported some fraud in the red meat supply chain there. It is interesting because it was intra-European, because there were no third countries involved in that particular scandal; it was all about trade going on within Europe, and one of the suggestions to me was that the open market was one of the reasons why people could conduct unscrupulous business without being detected, because there were no inspections of the food supply. In terms of thinking about how we are tackling food fraud, Europe is probably way ahead of the rest of the world, because we have formed what we call the Food Fraud Network, and that is all those people from academia, regulatory, and government agencies working together to share information and to exchange best practice.

The Chairman: Does the Commission still have the subject sufficiently high on its radar as a subject; or has the issue been put aside now that something has been done, and it will continue at a low level until the next scandal; or is there a continuing programme that is working out how to make sure that this sort of thing does not happen on that scale again?

Professor Christopher Elliott: Yes, but by unlucky coincidence, on 24 June I was in Brussels at a high-level food fraud meeting with people from the Commission and people from industry,

and it was about better integration of the EU efforts around food fraud. It just happened to be the morning of the Brexit result, so it was not a particularly good time to be representing the UK and talking about better integration.

The Chairman: Lord Rooker, I think you had a question about capacity of laboratories.

Q3 Lord Rooker: Good morning, Chris. Our paths have crossed before. As you know, I chair the National Environmental Health Board and I did chair the Food Standards Agency for four years. It was partly a European angle. When the horsemeat crisis broke in early 2013 it was the case that both in the Republic and in the UK, in terms of samples, huge numbers had to be sent to, I think, Hamburg, Germany, simply because of laboratory capacity in the UK, which has diminished, and certainly diminished at the time. I just wondered, given your experience since, has there been any attempt to rebuild that in terms of the laboratory capacity? It was perfectly okay to send the stuff to Germany; the companies are European-wide companies who own the laboratories but do you see any difficulty in the future? If our laboratory capacity is not up to scratch, do you think there is sufficient access, in the situation we are in, of laboratory capacity in Europe, if we get another situation on the scale of the horsemeat scandal?

Professor Christopher Elliott: The question you ask, Lord Rooker, is very pertinent, because at that time there was not the capacity to deal with a food safety crisis in the UK, and yes, large numbers of samples had to be tested by a commercial company in Hamburg, Eurofins. Subsequently, when I looked at the number of public analyst laboratories that we had across the UK, I was really shocked; it was absolutely in decline. There had at one stage been between 40 and 50 public analysts serving all the local authorities across the UK, and that had contracted to nine. The news is there are only six left. Those six are trying to work together to form a more resilient kind of business, because they are finding it very difficult to compete with multinational companies now. Do we have the resilience in the UK for another crisis? I doubt it very much.

Viscount Hanworth: Can I ask when that contraction in the numbers occurred?

Professor Christopher Elliott: That would have been over a period of about 20 years, and the basis for that was, as the budgets of local authorities came under more and more pressure, one of the easy targets was to cut the amount of sampling and testing that went on in relation to food.

Baroness Sheehan: In your report you talk about breakout points, when fraudulent activity below the radar suddenly comes above the radar. I just wanted to know when the breakout

point for the horsemeat scandal was, given that testing regimes in the UK had reduced capability.

The Chairman: Can I just interrupt? I know we have introduced the horsemeat scandal, but we have that as a specific subject later on. Perhaps we can move on to Viscount Hanworth's question. Many of these questions overlap, so I will just try to keep them contained in the right order.

Q4 Viscount Hanworth: I am going to ask a question on this which is rather obtuse: what are the drivers behind food fraud? You have told us that essentially they are pecuniary but perhaps one can make a distinction between the endemic frauds and the episodic ones. There has been a suggestion that crop failures may be part of the story. That is the essential question, and I wonder whether this is also encroaching on other people's questions. I am interested to know what the awareness of suppliers of, say, supermarkets might be of the security of their food ingredients and their manufactured foods. Are they sufficiently aware to alert you, or are they wilfully negligent, or what is their stance? The first question was whether you can make a distinction between the endemic and the episodic.

Professor Christopher Elliott: On the point you make about the causative factor whenever there are food fraud episodes, the more I study this subject, the more I can see that it is around climate change, crop failure, particular pests that hit a crop somewhere in the world, and that causes massive perturbations in the supply chain. I can give you a very good example in 2014-15, when the cumin crop in India failed. Cumin is a very common spice that is used in a lot of savoury foods. There was a shortage of cumin, the price started to rise dramatically, and the fraudsters then substituted cumin powder with another powder. If you have ever looked at cumin, it is a brown powder, and they substituted with another brown powder.

Viscount Hanworth: So they coloured it?

Professor Christopher Elliott: It was not coloured; it was just that they found a waste material that could be powdered that looked very similar to cumin. It happened that the material they used was peanut shells. What they did not think about was that there were still some peanuts left in the peanut shells, so we ended up with peanuts in the cumin supply chain. People who are allergic to peanuts have a very severe anaphylactic reaction, and we started to pick up, particularly in Canada, North America, people suffering from anaphylactic shock from eating curries. That brought about the world's largest food recall in relation to the presence of allergenic substances in food. That is just one example of one crop failure in one part of the world which had a massive impact on another part of the world.

Viscount Hanworth: I raised another issue, which is the awareness among suppliers of the provenance of their various foodstuffs. Does that fit better under some other rubric than mine? I am not suggesting that some of them might be wilfully negligent.

Professor Christopher Elliott: Prior to the horsemeat scandal I think there was too much reliance on trust, trust in suppliers due to long-term relationships and so forth. That trust very quickly disappeared, and what we now have across the UK is FIIN, the Food Industry Intelligence Network. I have been helping FIIN. It is comprised currently of the 22 largest food businesses in the UK—more members will join—and that is very much about thinking about the potential risks to our supply chain, what testing we should be doing, and whether we should be worried about particular crops because of failure or some other dynamic happening somewhere in the world. In the UK now we are probably ahead of the rest of the world in thinking about looking at the potential for fraud and detecting it very early.

Viscount Hanworth: Would you say there is a perception on the part of supermarkets that it is in their best interests to be aware of these matters?

Professor Christopher Elliott: All of the big, multiple retailers are part of that network now, and even though they are in fierce competition with each other, we are at the point where they are exchanging quite high-level information about their testing programmes.

Lord Krebs: Chris, if I could just follow up with a twist on that—and I should declare three interests: one is that I am a former Chairman of the Food Standards Agency before Jeff and my successor; also that I do some advisory work for two food companies, Marks & Spencer and Ajinomoto, a Japanese company. What I wanted to ask apropos the previous question is whether in general in the food system, documentation or ascertainment of traceability depends on certification rather than testing? I remember that when I was at the FSA there used to be a one-up, one-down supply chain validation, so if you are importing a commodity from Brazil, it arrives in a container ship with a certificate saying, “This is non-GM soya from the particular province of Brazil”. How do they know that is valid? Because somebody in Brazil has produced a certificate that says it has been transported in a tray from a farmer to the port, it is non-GM and comes from a particular part of Brazil, and so on back. You can see lots of opportunity for cheating there, because it only needs one person in the supply chain to fake the certificate and the whole system falls. I wondered if, say, Tesco, in sourcing its mince for its lasagnes, relies on a supplier saying “This is guaranteed minced beef”, and it turned out not to be, but that supplier had an intermediate manufacturer who bought the mince from someone else, who bought it from someone else. Can you just tell us about that?

Professor Christopher Elliott: You are absolutely right; supply chains are very reliant on the paper-based trail, one forward, one back, and I always say paper-based systems are paper-thin in relation to their rigour; it is very easy to cheat. The horsemeat scandal was full of falsified documents, very badly photocopied documents, that got through systems. The multiple retailers, the food service sector as well, are very aware that they cannot rely solely on documented trails, so they do a huge amount of auditing now. They audit their primary suppliers and they have also introduced their own testing programmes. One of the great difficulties is that each day in the UK there are about 40,000 different food products sold, so which do you test? That is where the FIIN network is coming into play, as we are trying to help them and do the risk analysis around particular ingredients and guide them towards what they should be testing and some of the materials where it is not worth while.

Q5 Lord Trees: To some extent my question is redundant. It is about following the food chain and asking where, within that long chain, the really vulnerable points or the most vulnerable points to fraud are. I suspect that I know your answer.

Professor Christopher Elliott: All points are vulnerable.

Lord Trees: That is what I thought you would say.

Professor Christopher Elliott: Quite often people confuse complex supply chains with the distance that food travels. I could give you wonderful examples where we import fresh produce from sub-Saharan Africa and there is a two-step supply chain; the potential for fraud there is close to zero. I could talk to you about supply chains that are a few hundred miles long but the goods will maybe change hands between five and 10 times, and each time there is an exchange of materials, that is another vulnerability. Generally during storage, during transportation, there is always the opportunity to change the documentation or substitute one product for another.

Lord Trees: Can I just follow up on the certification issue? I am a veterinary surgeon and I always tell new graduates “The most valuable thing you possess is your signature.” In terms of people signing these certificates at each stage, are they subject to professional regulation? What sanctions could be taken against them were they to be dishonest? Is it just a foreman on a farm signing a document? The certificate is only as good as the person who signs it, and their professional standing and the sanctions that can be taken against them should they not do it correctly.

Professor Christopher Elliott: Virtually all the suppliers will be part of some trade body, trade association. They will be tested by organisations like the British Retail Consortium with an

audit. If they are caught cheating, they lose that certification, which means it is very unlikely that anybody will be buying from them. In relation to the way you describe the documentation, one of the big changes happening now is what is called blockchain technology, where every time a commodity changes hands another part of a digital code is added to the signature of the previous piece of documentation. So whenever the goods arrive, you do not have to look at all the documentation; you can look at this electronic signature. That is, I think, one of the ways forward that the industry is looking at to prevent fraud in these very complex supply chains.

The Chairman: That is really interesting, because we think of blockchain technology primarily around cyber currencies.

Professor Christopher Elliott: Yes.

The Chairman: So this is potentially a real application of that.

Professor Christopher Elliott: Yes. There are several companies, some of them UK-based, that are now looking at blockchain technology in relation to controlling food supply chains.

The Chairman: Thank you. That is really interesting. Viscount Ullswater.

Viscount Ullswater: I would really like to explore a little bit further. You gave one instance of a cumin shortage and the risk to human health there, to consumers. I wonder if you could expand on the risk of food fraud in general to consumers, and also to the environment.

Professor Christopher Elliott: In many cases food fraud is about false claims on food—that it is organic, that it is Fairtrade, that it comes from a particular geographic region—and generally there are no potential food safety risks around those. It is where the food itself is tampered with; whenever there is substitution of one material for another or there is another type of fraud we call “addition fraud” where somebody is adding material to make it seem to have a higher value. Those are always cases where the food safety risks start to happen. If I give you another example, one of the things I am doing at the moment is studying milk fraud in India. India is now the largest dairy-producing region in the world but the average size of a farm there is three cows. How do you get the milk from three cows to the processing? You have all the issues about temperature regulation and climate. One of the frauds that was uncovered recently was that some of the farmers were adding formaldehyde to the milk to stop it going off; they were entering a toxic agent into the milk supply chain. Those are the sorts of things that really impact on people’s health and safety.

Viscount Ullswater: Could you give us a balance between substitution of horsemeat in red meat and those which in fact are dangerous in terms of food safety?

Professor Christopher Elliott: I would say the business model of a food fraudster is not to poison people, because as soon as you poison people, they get to know about the fraud. Quite often the fraudster is not setting out to do harm but what they do not understand is the potential safety and health consequences of doing that. The number of food fraud instances that cause health issues in consumers is quite small but they do tend to be very well publicised and often they will happen in the developing world, where they do not have the infrastructure to deal with these food crises.

Viscount Hanworth: One wonders if the Austrian vintners understood the effects of diethylene glycol.

Professor Christopher Elliott: Exactly; another very good example, yes.

Viscount Hanworth: Can you comment on that? Were they fully aware of the dangers or had there been a long history of this adulteration?

Professor Christopher Elliott: Just in relation to adulteration of wines and spirits, I have been able to track that back for about 2,000 years now, so it has gone on for a long time. There has been addition of lead and all sorts of things to alcohol. One of the biggest problems about alcohol fraud is that generally it is done by very unscrupulous, organised criminal gangs. Often it will be about the addition of methanol instead of ethanol to alcohol supply chains because methanol is a lot cheaper, but it also happens to be incredibly toxic.

Q6 Baroness Wilcox I come from a food processing background, fishing, and, having done that, I then became Chairman of the National Consumer Council, so I leapt over the counter and defended them for a while. I am fascinated by what you are saying because you have the undo-able job. It is just extraordinary. I suppose the first thing we would always say is “Grow your own food”; if you can grow your own food then at least you know what is in it, et cetera. I was particularly interested in labelling. I was not sure whether labelling comes under you or not. Labelling for us always held our feet to the fire, because the ranking system can very often expose things that you are doing. You read the label at the back and it turns out that two-thirds of what you are about to eat is sugar, et cetera. Those things work very well, and I wondered if there was anything new coming through. You have fresh food, chilled food, tinned food, dry food, frozen food—there are so many things, and labelling has been very good for people to be able to understand what they are eating. If they look at the ranking order at the back, and if you emphasise it enough that they should do so, that is a great help. Is there anything new coming forward as a mechanism across the board?

Professor Christopher Elliott: Labelling and food fraud is a very complex subject, because often you say consumers want more information but the more information you put on a pack, the more opportunities you give to fraudsters. For instance, if you want to say something is organic, there is a food fraud opportunity. If you want to say that it comes from a particular geographic location, that your ham comes from Parma, that is another opportunity. In relation to labelling, in my institute we have food psychologists and we have studied what people think about labelling, and often there is too much information there already. What is the most important information that consumers want? It is about the price, what the ingredients are and, these days, the sugar and salt content. The big innovation in labelling now is the use of smartphone technology. You can scan the barcode and, depending on the transparency of the supply chain, and you can get the full history. If you scan your meat, it could track right back to the farm that it came from. Quite a number of companies are developing that. In fact, some of the multiple supermarkets are developing their own smartphone technology that you can get this sort of information from. One of the big drivers around that is that those people who care about the food they are eating will scan the meat to see where it comes from, and on their smartphone they will say, “Three aisles down you can buy a very nice bottle of red wine that complements this meat and you will get a 10% discount.” So there is a complexity in how people are thinking about adopting the new technology and how they can afford to introduce expensive technologies to the retail outlets.

Baroness Wilcox: That is very helpful, Chairman. Thank you very much.

Q7 Lord Cunningham of Felling: This document, which I know is not yours, *Food Crime Annual Strategic Assessment* by the Food Standards Agency and Food Standards Scotland, gives the impression that we do not have a strong feel for the shape, size and nature of food crime in the UK. Is that an accurate statement or not?

Professor Christopher Elliott: I think that is absolutely accurate. We are quite far behind a number of other European countries in relation to thinking about the scale of food crime and food fraud. I often quote the example of the Dutch. The Dutch have put a phenomenal system in place over quite a number of years. The Dutch are the big trading nation in food. A lot of the food that we eat is transported through Holland. They have been developing their Food Crime Unit for a period of about 20 years now. It is about 10 times the size of the unit that we have in the UK, and something like 100,000 pieces of information each year are being fed in to their intelligence system, and they will trawl through that and pick out those cases that

seem to be the most severe. They carry out between 10 and 20 active investigations on organised crime each year in the Netherlands. That is where we should be.

Lord Cunningham of Felling: You have anticipated my next question, in fact, and I am not complaining about that. The Food Crime Units in the UK are relatively new, set up in 2014 and 2015, and my question was going to be, are they fit for purpose? Compared to what is happening in the Netherlands, I think your answer would be no.

Professor Christopher Elliott: The Food Crime Unit has been set up for about two years and I must say the Food Standards Agency has done exactly the right thing: they have recruited people from a police and intelligence background, which is absolutely right. The new Chair of the FSA, Heather Hancock, has just asked for a review of the National Food Crime Unit, and I am hoping that that review will say that they are grossly underresourced at the moment.

Lord Cunningham of Felling: I would certainly agree with that. That would be my estimation. Can I ask you—and I do not mean this to be a trick; it might turn out to be a stupid question—why in this report are food fraud and food crime described differently? Is not all fraud crime?

Professor Christopher Elliott: Again, we struggle with definitions in this area. There is no European definition of food fraud or food crime. I may be partly responsible for that because I basically invented the term “food crime”. I was trying to convey to people that it is not a trivial act by one or two people; it is organised, well-orchestrated, and can often be multinational.

Lord Cunningham of Felling: May I just pursue this a little more, Chairman? There is no attempt in the report of the two food standards agencies to produce a table of the incidence of food crime—I would call it all crime but I am not going to split hairs about that—sector by sector or industry by industry. There is no detail about any of that at all in here. Is that because the information does not exist or because they have not had the resources to pull it all together?

The Chairman: A supplementary to that is: how many prosecutions are there, if any?

Professor Christopher Elliott: In relation to the first question, it is a combination of all those things you said. They do not have the resource to go out and investigate and, secondly, they are dependent on those people who are doing their own investigations, and that is basically the food industry. The food industry is collecting and collating its own information and, as I said, is now starting to share that as part of the FIIN network. I am now trying to encourage the FIIN network to share that information with the regulators, and I hope that by the end of

the year we will be at the point where that information will flow from the industry to the regulators, to give them an idea of which areas they should be targeting.

Lord Cunningham of Felling: When Lord Rooker and I entered what was then the Ministry of Agriculture, Fisheries and Food in the spring of 1997, the first major problem that confronted us was of course food crime relating to illegally exported banned British beef. The Ministry, using its own investigators, pursued the people perpetrating the crimes; and there were several British-based companies. We never succeeded in bringing anyone to court, and that is what is important about the Chairman's question. Is there any evidence that the regulatory systems we have are successful in making people face the music?

Professor Christopher Elliott: In relation to prosecutions, if we look at the horsemeat scandal, nobody was prosecuted for that. Some people who were investigated were found to be doing other things that were worthy of prosecution but not in the horsemeat scandal itself, because the infrastructure was not there to investigate what is very complex crime. Generally, fraud is very complex: financial fraud is complex, food fraud is very complex as well. There was a very recent prosecution in relation to the owner of a chain of curry houses who was perpetrating very serious food fraud which ended up killing somebody. Again, it was back to substitution of peanut for almonds.

Lord Cunningham of Felling: That is a particular, individual case. If I may just ask this final question: you mentioned the cumin scandal; you have also referred more than once to the horsemeat scandal. Were they the result of organised criminal groups on a large scale?

Professor Christopher Elliott: When I looked at the horsemeat scandal, I was able to uncover in my own way at least two different organised crime networks operating across Europe. There was information starting to feed through that there was a third, independent network working out of eastern Europe. Was it organised? It was incredibly well organised. For cumin is it organised? Absolutely. There is more and more evidence to show that some of the serious organised crime gangs across the world, from drug cartels in South America, the Mafia in Italy, are moving more and more into the food industry, because the benefits are there. The world trade in food is estimated to reach \$400 trillion in the next 10 years. It is a huge amount of money. The likelihood of being caught is very low and, if you are caught, the penalties associated with it are quite trivial.

Lord Cunningham of Felling: I saw enough of the manoeuvrings in the olive oil industry in the European Union to know that it was not exactly crime-free. Thank you very much for your answers.

Q8 Lord Krebs: In a way, my question follows from Lord Cunningham's, which I think you have partially answered. If there is in fact this unknown amount of food fraud or food crime going on, if you had a magic wand that you could wave, what would you do? What changes would you introduce to enhance the effectiveness of detection so we would be able to answer some of the questions that Lord Cunningham posed about how much there is and how to get a grip on it? Where would you put the effort if you were in charge?

Professor Christopher Elliott: Baroness Wilcox said, "Can you buy local food?", and that is fantastic, but there is not enough local food to go round. We import nearly 40 per cent of all the food we eat in this country. The next thing is whether you can de-complicate your supply chains, and a lot of the UK food industry is looking to do that at the moment, but then you have to be very careful, because if they suddenly decide to reduce their supply base and there happens to be a crop failure, there can be massive perturbations in the food supply system in the UK. A lot of the measures that I talk about are really understanding, knowing your supply chains, putting more checks into those supply chains, and moving away from standard, traditional, food safety audits to food fraud audits. There is a role for technology in this. My own research group and others around the world are developing handheld technologies that can scan a food ingredient to find out whether it is genuine or not. There is no single measure; it will be a number of different measures taken across supply chains.

Lord Krebs: May I ask a couple of follow-ups, Lord Chairman? First, it links back to a question that Viscount Hanworth asked about the major supermarkets. If one considered the question whereabouts in the UK you are most likely to encounter fraudulent food, if you divide it between restaurants—particularly small, independent restaurants—major retailers, small independent retailers or car boot sales, whereabouts do you think you are most likely to find it?

Professor Christopher Elliott: If you had asked me that question three or four years ago, I would have said all of them; they are probably all equally vulnerable, but I think the multiple retailers are incredibly risk-averse now. They do not want another scandal. They have the resources to put into developing very good auditing and testing techniques. I believe those people who perpetrate the fraud look for easier access to markets, and that will be through some of those other outlets, particularly the fast food industry, which is very vulnerable because it tends to be small groups of people who buy from cash-and-carries, and so forth, and those cash-and-carries buy from larger ingredient suppliers. There is great complexity of

supply chains there and there is not the same degree of rigour in auditing and checking and inspecting.

Lord Krebs: My second supplementary is about capacity and again links back to something I think Lord Rooker asked at the beginning. If you ask who is taking samples and checking, it is either trading standards officers or people in the port health authority at points of import. Two points arise from that. One is, on the European scale, until we Brexit, the point of checking is at the point of entry into the European Union, so the weakest link is the weakest border inspection in a European country. When I was at the Food Standards Agency I always had the impression that the skilled food criminal or food fraudster will not try to import stuff through a country like the Netherlands; they will go for a recent accession state like Romania or Bulgaria, where the system will be less well developed. My question is, has any progress been made on improving the standards of the weakest links in the European Union? In the UK is there enough capacity of trading standards or port health inspectors?

Professor Christopher Elliott: I totally agree with you. Regarding those who perpetrate fraud, I often talk about how their skill is movement and transportation and logistics, how they can move things around without being detected. They will often change how they move things around. They will know what level of testing and sampling happens at a particular point and, if it reaches a level that worries them, they will move their supply chains in another direction. In relation to the entire infrastructure and trading standards officers and environmental health officers across the UK, I have been saying for a number of years that it has been cut to the bone and, if there are further cuts, the likelihood of further major food safety incidents is quite high.

Baroness Sheehan: Following on from the first point that Lord Krebs made, the internet has changed quite a lot, and increasingly so, people's buying habits. I wonder what work you have done to find out how big the scope is for food fraud. Labelling, I guess, is the most significant, and organic. We have talked about outlets and supply chains but this has to be a game-changer in quite a big way, and increasingly so, I would have thought.

Professor Christopher Elliott: Yes, you are absolutely right. Quite a lot of people buy their food online now but generally it is from the multiple retailers. You can go online and buy what I would generally call speciality foods. We did a survey in 2015 on oregano. I had been given information that there was fraud in the oregano supply chain coming to the UK. We gathered a number of oregano samples from traditional outlets in the UK and from online and we found that, with online, 25 per cent of the samples we tested had some sort of fraud associated with

them, and of those from traditional outlets, 25 per cent had fraud associated with them. There is no difference.

Viscount Ullswater: Just to go back to testing, which I think was one of your answers to Lord Krebs, in earlier evidence I think you said that the industry does its own testing and the BRC particularly might give standards for that. What is the difference between the testing done by local authorities or port authorities as opposed to industry testing? How much is tested by the industry and how much is then tested by public authorities?

Professor Christopher Elliott: The testing undertaken by industry is substantial because of that feeling of being risk-averse now. One of the things fed back to the UK food industry was that it is fantastic that you are doing all of this testing, but most of it you are wasting your money on, because there is a huge amount of replication going on—Tesco will be doing the same as Asda and so forth—and you really have to think about sharing data and spreading the resource put into the testing programme across those food ingredients that are most vulnerable. That is where we are at the moment in relation to that. The testing by local authorities is much more frequent when they are suspicious of a particular business or premise, when they will go and take particular samples from those premises.

Viscount Ullswater: But that is at a lower amount, you mean?

Professor Christopher Elliott: I would say that, five years ago, the testing done by local authorities was greater than that done by industry, but I think those roles have completely reversed now.

Viscount Ullswater: Thank you.

Lord Trees: On analytical capability, GMO is a very controversial issue. There is a price differential and you can make a lot of money by selling GMO as non-GMO. Do we have the analytical capability to check that? I am thinking of soya for animal feed, for example, which is a huge market.

Professor Christopher Elliott: It is getting to the point now where it is virtually impossible to source non-GM soya because of the price differential. Are there tests for it? Yes, absolutely. It is not difficult to look for differences between GM and non-GM. Is there much testing for that going on? I do not think there is a huge amount.

Lord Krebs: It is not possible to test the purified derivatives like corn syrup or corn starch, where the DNA—

Professor Christopher Elliott: Exactly. You have to do it in the raw ingredient, the raw material.

Viscount Hanworth: How long has FIIN, the industry checking system, been running? Is it developing rapidly or have we reached a state of maturity?

Professor Christopher Elliott: It is absolutely developing rapidly, in fact the FIIN board met yesterday and that was their fourth meeting. It started off, as most things do, quite small; it was five or six of the large food companies in the UK industry which got together and they have been recruiting ever since. Whenever they reached 22 they covered about 60% of all food products being sold across the UK. They will be, I hope, open for membership again in the early autumn and they will expand it from 20 members up to 35 to 40. So it is ongoing. I think it will probably be another one to two years before the systems they are putting in place reach maturity and cover the vast majority of the UK food industry.

Viscount Hanworth: The question was the date of their inception?

Professor Christopher Elliott: The early thoughts were about a year ago and it has been about a 12-month journey so far.

Viscount Hanworth: So very recent.

Professor Christopher Elliott: Yes.

Q9 Lord Rooker: What is the relationship between authenticity and safety? Food authenticity was taken away from the FSA and put into Defra in 2010, but is FIIN looking at it as a whole? With horsemeat it was not known it was not a food safety issue to start with; nobody knew that and authenticity is the commercial fraud aspect of it. That is split in government, and that was much criticised by the National Audit Office in the horsemeat scandal. Are you satisfied there is a close relationship in FIIN on food safety and authenticity bearing in mind they are dealt with by different parts of government?

Professor Christopher Elliott: Yes, the FIIN network is very much around authenticity, around fraud, because they have very good, well-developed food safety testing systems in place. You are absolutely right, Lord Rooker, it is very difficult to separate issues about fraud and safety until you absolutely understand what the fraud has been. As you and I have discussed in the past, during the horsemeat scandal people very quickly said there was no impact on the food safety. I have no idea how they were able to state that without knowing the source of the material.

Lord Rooker: Or knowing the methods of slaughter. If I can ask a supplementary to that: at that time in 2013, notwithstanding the units which have been put together, it was very difficult for local authorities and the FSA to get the police and law enforcement interested in food fraud. Have things changed?

Professor Christopher Elliott: You are absolutely right, it was very difficult to get any of the UK police forces interested in food fraud. When I was doing my review, I found one very pertinent piece of information, because I wrote to every chief constable across the UK—43 forces—and asked how many cases of food fraud had they had investigated, and the answer came back: zero. I thought, that cannot be right. When I looked into that more deeply, when they search on their databases for the words food and fraud together they get no hits as the word food does not appear on their databases.

Q10 Lord Selkirk of Douglas: The Food Standards Agency notes that organised crime groups are increasingly linked to criminal activities relating to food, drink and animal feed. To what extent is this a highly organised crime on a substantial scale? Is this a domestic or an international issue? How is it addressed in the UK and internationally? Perhaps I may add that I have witnessed a case in court of a hotel owner being charged with watering down a bottle of whisky and the verdict was not proven. Is there a history of many allegations being made which are not substantiated? The other case I remember particularly was in my former constituency, when the allegation was that, as a result of a grudge, a former employee of a supermarket—I do not know, I am not sure if it was ever satisfactorily resolved—contaminated the food by injecting certain substances which were not to the good health of those who were purchasing it. I think it blew over after a time but it was very unpleasant. So food fraud is not necessarily of a pecuniary nature. Can you give us a picture of how big the problem is and what the best tools for deterrence are? Are they testing technology and CCTV? Are you able to give us a summary straightaway or, if necessary, in writing?

Professor Christopher Elliott: In relation to the first point, are there people who make mischievous claims, who say “I have been a victim of food fraud”? The answer is yes, because most of them tend to contact me now. I get all sorts of letters, emails, telephone calls saying “My meat didn’t taste properly, it must have been horsemeat or something else”. I talked about the case in the Netherlands, and they started off with 100,000 people complaining about something, but most of that is just background noise. The great difficulty is separating out what are the real issues from those people who are making trivial complaints or have a grievance against a butcher or something like that. There are ways you can manage that type of intelligence. There is growing evidence that organised crime is getting more involved in food fraud and I think the best example is the Italian Mafia and olive oil; they are inextricably linked now. There was evidence published very recently to show that, because of climate change and crop failures of olives in Italy and their still having to supply the world, the Mafia were importing

very low-grade, not only olive oil but other types of vegetable oil into Italy, and re-labelling the bottles and selling it on at massive profits.

Lord Trees: We have talked a lot about triviality and financial gain but there is another important aspect to this which is terrorism. What is your assessment of the vulnerability of the food chain to terrorism? Are we taking that seriously?

Professor Christopher Elliott: That is actually a completely separate subject from food fraud; in fact we describe that as food defence. How do you defend your food systems from people who are not out for economic gain but out to cause as much harm as possible? A huge amount of work has been done in the US post-9/11 on food defence. They take that much more seriously than food fraud. We look at lots of different scenarios of how you would go about poisoning a food supply chain. What I will not talk about are those things we have found to be most vulnerable. It is actually very difficult to contaminate a food supply chain because, if it had been easy, it would have been done by terrorists a long time ago. It is just not straightforward, thankfully.

Lord Trees: That is some comfort.

The Chairman: That is one bit of good news from this. Inevitably we go back to the horsemeat scandal.

Lord Rooker: You said that nobody had been prosecuted for the horsemeat scandal and there was an implication there it was down to local government or the Government to prosecute. The strange thing is, of course, that there was huge reputational damage to our major supermarkets and they did not sue their suppliers. Why do you think that was?

Professor Christopher Elliott: I believe that was because it was so difficult to find out where the fraud happened. If we talk about the original case, which was the famous Tesco beef burger with 29% horsemeat, the meat was supplied by an Irish company who had sub-contracted it to a Polish company. The Polish Government still insist that when the meat left Poland it was beef, and the Irish absolutely insist that when it arrived in Ireland it was horse. The likelihood is they were both telling the truth because there were multiple steps in between. I believe the fraud in that particular chain probably happened in some of the big cold stores in Holland.

Lord Rooker: Did you ever get to the bottom of the fact that the Irish Government claimed they were doing normal checks whereas everybody else knew they had been tipped off and that is why they did the checks in the first place? It was not a random selection. They did not tell the British Government or the Food Standards Agency what they had found until about three weeks afterwards.

Professor Christopher Elliott: My understanding is that there was not a tip-off. In fact it was more by coincidence than anything else. An Irish company had developed a range of new food authenticity tests and they had presented those to the Food Safety Authority of Ireland and said, “Would you like us to do some work on these?” They selected one of those tests and it just happened to be testing horse DNA and they said, “Let’s try that one” and, lo and behold, the first time they applied the test there was a positive sample. That was why there was the three-week delay because they wanted that test to be checked by other certified laboratories. I do not think there was any cover-up there at all, it was by chance more than design.

Lord Rooker: I was not implying it was a cover-up. One final question on something you said earlier. The eyes and ears of the public in respect of the food chain are the great unsung heroes in this country, the 3,000 environmental health officers who work 24/7 at takeaways, kitchens and all kinds of things. Their numbers have gone down. Some local authorities now are not doing any testing whatever, which is a risk. The laboratories have closed and the situation is getting worse rather than better. Are you able from your position—and I appreciate you are very important but not part of the infrastructure, although your advice is of value to Governments—to raise this issue without looking like crying wolf, without waiting for another crisis? Is there some way that can be done? It is not just a question of keeping laboratories going by sending lots of testing because you have to work on risk; I realise that. The issue is the crucial expertise of the people in factories and in shops, and we are losing it, are we not?

Professor Christopher Elliott: First of all, I absolutely agree with you about the importance of the environmental health service in the UK, because they do much more than sampling and testing; they give a huge amount of advice to people as well about the right way to do things. Do we have enough environmental health officers in the UK at the moment? Absolutely not, but then that brings about other questions. Who should pay for this service? Should it be paid for by the Government or should there be a levy on businesses? Lots of people have lots of different opinions about that, but the most important fact is that we need to retain that expertise across the UK.

The Chairman: Baroness Sheehan, do you want to follow up anything?

Baroness Sheehan: I think it has all been covered.

The Chairman: Lord Cunningham and then Viscount Hanworth.

Lord Cunningham of Felling: Professor Elliott, I do not want to give the impression that I am a critic of the Food Standards Agency, since it was Lord Rooker and I who wrote the

White Paper for the creation of the Food Standards Agency, as you know, and I remain a very strong supporter of it, but I come back to the question that I asked earlier. We have no real information in their report, or anywhere I can ascertain, about the incidence of food fraud sector by sector or in whatever way it may be possible to gather the information. Is that an impossible question to answer, or can some work be done to give us more of a picture of what is actually happening and how many people are potentially affected?

Professor Christopher Elliott: It is absolutely not impossible. One of the things I do with other colleagues is advise people about where the biggest risks are now—so we look at lots of different supply chains, we know the vulnerabilities, we know the complexities, we know they are coming from particular geographic regions which are prone to fraud. That information is there; you just have to sit down and dig and find it. The information is there, but it is back to resource. It is not a trivial act to look at all these complex supply chains and start to feed back what the vulnerabilities are. But once you do that, you have to say how we can mitigate against these particular risks. Do we buy from other regions? Do we introduce more audits, more testing? It is quite complex, but it is all about deterrence to fraud because, once the scandal happens, it is too late.

Lord Cunningham of Felling: Thank you.

Q11 Viscount Hanworth: Are you managing to recruit many people to your academic specialty? If you are, what are their employment prospects within the discipline of food security?

Professor Christopher Elliott: I have a very good and active research group in Belfast and in fact I get applications from all over the world to join it now; we are developing a reputation for looking at cutting-edge technologies in relation to fraud. It is interesting, because food safety used to be the big driver for employment in the food industry for my graduates, and now they are looking for this additional skill set and looking at, I call it, food integrity. It is not only about safety and fraud; it is looking at the entire integrity of supply chains. The UK and the European food industries are looking for people with that level of expertise now.

Viscount Hanworth: FIIIN in particular would be recruiting, would they?

Professor Christopher Elliott: We are generating 40 or 50 graduates each year and many of them are going into the technical departments of the food industry.

Viscount Hanworth: That is hopeful.

The Chairman: Just in conclusion, you have said there are one or two priorities, whether following the Dutch model or reinforcing environmental health, as Lord Rooker has suggested.

What are the key two or three things, if we followed this up in any way, that we should be testing the Government or the European Commission on?

Professor Christopher Elliott: What is essential is information sharing. There is so much information that resides in industry and the different EU member states. It has to be collected and analysed and then that information has to be fed back to the competent authorities, and back to the food industry as well. The second thing is more thinking about auditing food businesses. I often say food businesses are audited to death. They spend an absolute fortune, because every time you get a multiple retailer coming on to your premises, they do an audit and the food business has to pay for that audit, and those get replicated over and over again. There is a huge waste of money going on in that now and more resource could go into auditing against fraud. One of the UK retailers now has a special fraud audit and they say they are uncovering things they are absolutely surprised at, so it is about re-thinking audits. The third thing is about testing the raw materials, because once you have a heavily processed food and somebody finds out there is something wrong with it, it is too late, and to find out where the fraud happened, you have to undertake multiple recalls of food products. During the horsemeat scandal, 6 million food products had to be recalled, whereas if some raw material testing had been going on the problem would have been detected much earlier.

The Chairman: Professor Elliott, thank you very much indeed. It has been a very useful and interesting session, and I bring a halt to the public session at this point.