A Food Brexit: time to get real

A Brexit Briefing

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Summary

The implications of Brexit for food are potentially enormous. This verdict applies, whether there is a 'hard' or 'soft' Brexit. The UK food system, consumer tastes and prices have been thoroughly Europeanised. This will be impossible to cut out or back by March 2019 without enormous consequences. The UK food system faces real challenges on food security.

This paper summarises 16 major issues on which Food Brexit has the potential to threaten UK food resilience and security:

- **Vision.** What goals would any new post-EU food system have? Will these address the looming sustainability challenge which is a mix of ecosystems, social and public health challenges?
- **New food legislation** will be needed. Will this be a transfer of EU legislation followed by the Secretary of State sitting with his or her 'delete' button?
- **Food security.** The UK's home production has been steadily declining. The UK food system ought to be improving its resilience. It isn't. It's like the rabbit caught in the headlights – with no goals, no leadership, and eviscerated key ministries.
- **Sourcing.** The UK derives much of the food vital for health – fruit and veg – from within the EU. The pound sterling has been dropping. Food price inflation is rising.
- **Public support.** Clarifying and then aligning what British consumers say they want with what is negotiated by March 2019.
- **Food quality and standards.** Brexit campaigners ignored the inbuilt reliance the UK has on pan-European institutions, to which we contribute. A vast array of institutions and scientific infrastructure keeps UK food fit to eat. Brexit campaigners did not inform consumers/voters that US agribusiness is salivating at the prospect of selling foods which have weaker standards, nor that foods derived on world markets use standards which are weaker than the EU's and those of the USA.
- **Replacing the Common Agricultural Policy and Common Fisheries Policy.** The CAP and CFP are core and old EU policies. They have been much attacked in the UK, often for good reason. Leaving CAP and the CFP exposes a vast policy vacuum. The new Secretary of State has made a statement about even tearing up the CFP predecessor the London Fisheries Convention from 1964! The Coalition and subsequent Conservative Governments provided no policy vision other than a belief that Agri-technology and an export drive will suffice for farming, and that reasserting a 200-mile exclusion will resolve unsustainable fish sourcing. They will not. What's the point of farming and fishing? How can they mix food production and ecosystems services? These are vital issues for the era of climate change and ecosystem stresses.
- **Food labour.** The entire UK food system is dependent on migrant labour. UK food manufacturing is our largest manufacturing sector but one third of its workforce is migrant. UK horticulture has massive dependency on migrants to pick 'British' food UK consumers say they want. Technology will not replace the vast army of migrant labour who work in food service.
- **Subsidies.** HM Treasury and Defra have long been ideologically opposed to subsidies for farmers yet CAP/EU subsidies provide about half of UK farm incomes. The Conservative manifesto talked of maintaining subsidies until 2022. Then what? Defra and HM Treasury are committed to cutting 'Pillar 1', implying that if there are to be any subsidies, the base line for them would be the existing 20% that goes to Pillar 2. The subsidy question

exposes the shameful inequalities within the UK food system. Primary growers get a tiny percentage of what consumers spend on food.

- **National and regional food policy.** The UK has no food policy. Scotland and Wales have been developing their own visions; England is the problem. Seen collectively, the UK will have a dwindling mishmash of policies, once EU frameworks are removed. The UK has fairly consistently failed to contribute positively in EU debates, playing to the corporate gallery at home, arguing for cutting subsidies, rather than working hard inside for progressive policies. The world's food system faces immense challenges. The drift in and after a Brexit is the worst policy situation imaginable. We have options. This paper explores some options mooted within and beyond government circles: a new imperialism (expecting others to feed us); reinvigorating UK food systems; commitment to sustainability; and more.

- **Relationships with neighbours.** The wild talk before, during and since the Referendum ignores geography. The EU 27 member states are our neighbours. They are incredulous at the hostile, stupid talk from leading politicians. British negotiators must build bridges. Or does the UK really want hostility? This would be madness for a country which does not feed itself.

- **Divided Food Britain.** The UK is a food divided country. The health gap between rich and poor is heavily associated with diet and food costs. Recent events underline how important it is to tackle these divisions. Merely promising ever cheaper prices or more food banks is not a reasoned policy response.

- **Institutions and infrastructure.** The UK enters Brexit negotiations in a weak situation. The Food Standards Agency is a shadow of its former self. Defra has had years of cuts and suffers a serious staff shortage, just when the UK needs many of the best and brightest civil servants to negotiate the most important element of Europeanisation – our food. To leave the EU would sever the UK from many bodies which underpin food – from scientific advisory bodies to regulators, from research programmes to subsidies to regions. What is going to replace these? There is silence from Defra and the Government.

- **The negotiations.** In 18 months or so, the most complex reconfiguration of the UK food system is to be completed. Analysts now realise that this is at best folly or at worst a recipe for chaos. Never has there been such a large body of thinking within the food system, from outside critics to inside track policy cognoscenti, that the UK ought to take a deep breath, reconsider and pursue a well-thought-out strategy.

- **The role of Big Food.** The food system is already dominated by huge food companies. Brexit must not be an opportunity for further corporate capture of market power. The good news is that increasing numbers of food companies now recognise the seriousness of impending crises from health, ecosystems and social divisions. The UK public must ensure that what emerges ahead – whether the UK leaves or stays – the food system is more firmly shaped by values of justice and decency, as well as good quality.

The realities of a Food Brexit are awesome. The British public has not been informed about its implications. Many people who voted for Brexit will be hardest hit by a 'hard' Brexit – people on low incomes, the elderly, farmers, people in the North of England. This paper urges politicians, civil society and academics who understand the food system to speak up and speak out. Brexit is a political construct. It should not be a recipe for food insecurity.

The paper gives specific recommendations in each section, centred on how to enhance food security in the UK.

Our overall view is that this will require HM Government to:

- give a policy commitment to a modern, low-impact, health-oriented UK food system, and set out how that will be achieved, with or without Food Brexit;

- create a new statutory framework for UK food, which we term 'One Nation Food';

- link this new statutory UK food framework to the UN Sustainable Development Goals and the 2015 Paris Climate Change agreements (known as COP21);

- set new clear targets for UK food security (food supply, quality, health and consumption) which go beyond mere quantity of supply by addressing ecosystems and social systems resilience;

- create a new National Commission on Food and Agricultural Policy to provide oversight and review, and to be a source of advice trusted by the public;

- to make a clear and explicit commitment to address food matters in the Brexit negotiations which (bizarrely) has not been given;

- include in the above a continued but reconstituted, co-operative set of arrangements with the EU food agencies with regard to regulatory synergies in food trade and standards;

- develop an approach to food policy which is politically open and socially inclusive.

Introduction

With the triggering of Article 50, the process of the UK leaving the EU began. The effects of the narrow Referendum majority in June 2016 started to emerge. Then, unexpectedly, the UK had an unanticipated and inconclusive General Election. These wider politics have exposed the weak state of thinking about the effect of variants of Brexit upon UK food. This paper sets out to fill that gap. There has been some slight discussion of Brexit's impact on agriculture, mostly focused on farm subsidies. Subsidies are important but only a corner of the wider food picture the Referendum debate ought to have analysed. Worse, food has featured only marginally in public policy debates in the General Election. This weak recognition speaks volumes not only about political discourse but also about public pressure. What can be more important than our national food supply and food prices? There is a real danger of a fantasy that these new times will not affect UK food. They will. So the public must ramp up its interest. This briefing sets out why food – not just farming – deserves a high place on the public agenda, not least since the UK is heavily dependent on EU Member States for its food. One third, in terms of expenditure, comes from other EU Member States. Currency fluctuations have already exposed upward price pressures in a food-importing country.

Brexit could, all too easily, diminish food security in the UK, where parts of our food system are already far too insecure; this rich country is pocketed with real food poverty, for example, and diet-related disease is part crippling the NHS. We understand food security to be the achievement of a system that provides food that is sufficient, sustainable, safe and equitable. Brexit could, however, undermine all four of those aspects, in what is an already insufficiently secure food system. Moreover, the UK food system should not only aim for domestic security, it should also not undermine food security in any of the countries from which we buy, or to which we sell, foodstuffs.

This briefing suggests changes that the UK food system should be undertaking if its long-term structural needs are to be addressed. Our case is that the UK food system is highly vulnerable to the rising costs of diet-related ill-health, ecosystems damage, economic dependency, and social reliance on migrant and relatively low-waged labour. With or without Brexit, if HM Government was to act responsibly, the UK food system should be embarking on a great Food Transformation to a more secure future. The uncertainties provoked by the outcome of the Brexit Referendum, coupled with the recent Election, could result in serious nutritional and political problems. Supplies could be reduced, prices could become increasingly volatile, environmental sustainability could be further diminished, safety could be imperilled, inequalities could be amplified, and public trust be undermined. The just-in-time distribution systems, complex contracts, and labyrinthine supply chains cannot quickly or easily be restructured. Scientists have already been concerned about their resilience – their capacity to withstand shocks.

Some of the major challenges in relation to food that have been provoked by Brexit are identified and summarised:
- the need for new national goals for enhanced food security;

- the requirement for new legislation to govern the UK's food system, which will enhance our food security, without undermining food security in our trading partners;
- the question of where the UK's food supplies come from: i.e. sourcing;
- listening to and engaging with the British public as citizens and as consumers;
- the vital matter of threats from Brexit to food safety, standards and quality;
- the politics of exiting from the Common Agricultural Policy, and what will replace it;
- agricultural subsidies: whether they are needed, if so for what, and how they should be structured;
- the issue of food labour, and the dependence of UK production, processing and food service on non-UK citizens;
- how changes within the EU may affect the future of UK food security;
- pressures within the UK from the devolved administrations (Scotland, Wales and Northern Ireland) and from city regions;
- the need for official UK food institutions to be made fit for post-Brexit purposes;
- public accountability in the Food Brexit negotiations; and
- how to ensure that the interests of Big Food corporations do not trump those of consumers, the environment or small-scale producers.

When we use the phrase 'Food Brexit' we are referring to both the process during the course of negotiations between the UK and the EU that will be related to issues of agriculture and food, as well as to the new policy regime that will cover the UK's agricultural and food system post-Brexit.

Rather than providing one section of recommendations, this paper provides specific proposals throughout, and gives overall recommendations in the conclusions. The paper gives specific recommendations in each section, centred on how to enhance food security in the UK.

Our overall view is that this will require:
- a policy commitment to a modern, low-impact, health-oriented UK food system;
- a new statutory framework for UK food, which we term 'One Nation Food';
- this new statutory UK food framework to be linked to the UN Sustainable Development Goals and the 2015 Paris Climate Change agreements (known as COP21);
- new clear targets for UK food security (food supply, quality, health and consumption) which go beyond mere quantity of supply by addressing ecosystems and social systems resilience;
- the creation of a new National Commission on Food and Agricultural Policy to provide oversight and review, and to be a source of advice trusted by the public;
- HM Government to make a clear and explicit commitment to ensuring a sustainable, safe and equitable supply of food, and to set out how that will be achieved, with or without Food Brexit;
- a continued but reconstituted, co-operative set of arrangements with the EU food agencies with regard to regulatory synergies in food trade and standards;
- an approach to food policy which is politically open and socially inclusive.

Food Brexit politics: taking stock after the June Election

Food barely featured in the pre-Referendum debate about whether the UK should vote to leave or stay in the European Union (EU). Since the Referendum, and preparing for the marathon negotiations now starting, it began to emerge in the margins of policy discussions; not before time. As was argued before the vote, food will be a delicate and complex matter for any form of Brexit, because the EU is our major food trading partner and disrupting trade with EU Member States could seriously undermine food security in the UK.[*1 2] And now we have extra uncertainties arising from the General Election.

Over the last half century, the UK's food system has become closely entwined with our neighbours on the continent. British people often say they want to eat British, but in practice they do something rather different. About a third of UK's food supply comes from EU Member States. And over the last half century, tastes have changed dramatically. A return to a 1950s or 60's pre-EU 'British' era of food is unlikely. Churchillian romantics who see Brexit as an opportunity to relive imperial or wartime days go silent if the culinary era of tinned peaches and spam are mentioned. It was Europeanisation which coincided with – and arguably facilitated – the flowering of modern UK culinary culture. That and continental holidays, as well as migration, brought new tastes, and a new labour force. Plus rising incomes and the supermarket revolution.

So what will happen to the UK food system when and if the UK Brexits? Will the UK government and food businesses recreate a World War II-type land-army to replace the ejected non-UK crop harvesters? Will the British public simply tighten its belt and eat less food? Will people be willing to pay higher food prices? Many of the UK's international food contracts are denominated in Euros and Dollars, while the value of the pound has fallen sharply since the referendum and those price volatilities unnerve food traders. Or will nothing but good come from Brexit, as some Brexiters have claimed? Will British farmers receive higher prices for the food they produce and learn to end their reliance on subsidies (or accept subsidies only for ecosystems services)? Will UK horticulture experience a renaissance; if so how? Will new creative energies in healthy food processing and food service be unleashed?

The outcome will depend on the substance of the negotiations between the UK and its trading partners, and on what UK politicians set out to achieve. And that depends on what the public requires its politicians and negotiators to deliver. Unless there is a clear focus on these challenges and options, the risk is that food security in the UK will be seriously undermined, as supplies narrow (or even dwindle) and prices fluctuate and/or rise. There are also serious risks that standards of food safety will decline if the UK ceases to adopt EU safety rules, and instead accepts free-trade agreements with countries with significantly weaker standards. There are weaker standards not only in China and many developing countries, but also in the USA, and under the Trump administration US standards are likely to decline sharply.

This paper outlines what is likely to lie ahead, and explores some options. It highlights key issues which politics will decide, but the consequences of which will affect the population. It begins by clarifying where we are, and why food matters in Brexit.

Ten reasons food and its future matter (with or without Brexit)

Most food analysts and commentators – whether based in Universities, think-tanks, government, industry or civil society - recognise a number of features about the food situation in the UK, both pre and post Brexit. The mood of analysts is sober; there is wide agreement serious times lie ahead for the food system. There is a real danger of underestimating the enormity of the impact of food negotiations ahead. This section is written for any readers unaware of why the outcome and processes of Food Brexit matter.

Reason 1: <u>Leaving the European Union (EU) entails significant changes to the structure and operations of the UK's food system.</u> Going it alone exposes how complex the processes are by which food reaches supermarket shelves or take-aways. As Professor Tim Benton, former Government Food Security champion, has explained *"…a relatively simple food produced in the UK like a chocolate Kit Kat…contains cocoa from Africa, milk products from the UK, whey from New Zealand, palm oil from Asia, sugar from South America, wheat from Europe. So we simply can't look at the supply chain in terms of the UK alone. Increasingly, perturbations elsewhere in the world will feed back into the availability and price of food the UK"*.[3] The UK's food supply depends on hundreds of thousands of contracts, underpinned by thousands of standards and specifications, all of which collectively shape how this system operates and who does what. The food sector, taken as a whole, is the UK's largest employer, and the UK's food supply depends on a vast diversity of sources and processes.

The UK 'food system' operates as smoothly as it has because of the prevailing patterns of trade and 'rules of engagement'. If those patterns and agreements are disrupted, the adverse impact on UK consumers could be marked, even severe. Supply chains could be disrupted, creating scarcities that will drive up prices, and food standards might well deteriorate.   When (perhaps if) the UK does leave the EU, whether the Brexit will be 'hard' or 'soft', we expect destabilisation and reduced food security. Technical managers within the UK food sectors all know this, and they are anxious about the disruptive consequences of an ill-thought-out Food Brexit. Almost all firms and trade associations in the food sector took an 'arms-length' approach to the referendum debate, and many are now ruing that decision. They wished they had expressed their concerns publically, rather than just sending discrete signals to government officials. They know, too, that the food system faces big stresses ahead anyway, with or without Brexit.

Reason 2: Food has a highly significant but relatively inconspicuous role in the UK's political economy. Production, processing, sales and consumption of food and drinks shape public health, but also the wider political economy. In some respects, food is a commodity like others in our market economy, but in other respects it is quite special. It has a huge impact on the environment, the quality of our social and personal lives. In many respects, the

operation of the food system is taken for granted in the UK, at least by those who are not suffering food poverty with shops serving affluent areas which are overflowing with food. On the other hand, food is a highly sensitive commodity. People cease taking it for granted when prices rise abruptly or when the food supply is unsafe, adulterated or mis-labelled.

Reason 3: <u>People think they are in control of their food choices,</u> although social research suggests that food intake is strongly influenced by social factors such as advertising and marketing, income levels, culture and social backgrounds. Furthermore, over recent decades a very substantial body of evidence has accumulated showing how important food is for public health. In the UK, there is a complex mix of both obesity from over-consumption and under-consumption caused by poverty. Food production and consumption also have considerable impacts on the environment; farming often pollutes; agriculture and food processing are major drivers of land-use changes, resource depletion, ecosystems loss and water use. Although food provides nutrients, it is also a key social signifier. The UK has changed, it used to be a country with a reputation for eating unwholesome and unhealthy meals at home. Currently about a third of all food expenditure in the UK is spent on food outside the home; although it pays for only some 17% of our food by volume. It is increasingly available 24 hours a day, and 12 months a year, but the quality of our food supplies are very uneven. Over time, the quality of the UK's food supply has polarised. The good has got better, while the junk has become even junkier.

Reason 4: Unlike most other commodities, such as DVDs, foreign holidays or cars, food is a basic necessity for life for most people; there is little room for food as a luxury. If Brexit is supposed to improve Britain, then it must do so for food. Food is a bellwether of progress. If the supply or the quality of our food is damaged by Brexit, those responsible for those failures will deserve to pay a high price. The most immediate issue is food prices, which have direct impact on consumption, and are already rising.[4] The British have become accustomed to cheap food. Since 1846, with the Repeal of the Corn Laws, Parliament took a momentous decision to begin to abandon a reliance on domestic farming, and instead to import food from whichever country offered it most cheaply. It was not until the two World Wars of the 20th century that UK governments saw a need to increase the UK's reliance on home-produced food.   Following the end of World War II, food and agricultural policies in the UK and Continental European countries refocused on increasing domestic food production. But in exchange for more secure supplies, British and European consumers have seen food prices that have been significantly higher than those on world markets. Nonetheless, UK governments have long favoured what are often termed 'cheap food' policies, because they have supposed that contributes to keeping UK labour costs low, and thereby help UK firms compete in export markets. It has long been known that British people on low incomes spend proportionately more of their disposable incomes on food than do the rich.[5] The amount spent on food in the UK has grown in absolute terms, although in relative terms, food expenditure as a proportion of disposable incomes has fallen.[6]

Reason 5: Food is a huge item of expenditure for consumers. Currently the British spend c. £201bn a year on food and (non-alcoholic) drink.[7] This is a huge sum. On average, they spend around 11% of domestic income on food, if eating out is included, but for the poorest 20% of consumers, food accounts for almost 16%.[8.] While housing costs have risen for many social groups in most parts of the UK, for both owner-occupied and rented homes, the cheap food

policy has been delivered to the point that, for most people, food is now actually 'too cheap'. Partly that is because food prices do not include the full costs of production, especially in terms of resource depletion and environmental pollution. Also, externalised costs to public health, from conditions such as obesity and diet-related heart disease and cancer, are not properly reflected in consumer prices. In particular, cheap food policies have depended on cheap labour, not just on farms but also in food processing, distribution, retail and food service.

Reason 6: Food Brexit will be a major disruptor of the current the food system, which has undergone a transformation since 1945, and has Europeanised for the last half century. Food is now plentiful in most shops, and patterns of supply have spread throughout the UK. To change all this in under two years is bringing most food analysts and food industries out in a cold sweat. The pace and scale of possible change is unprecedented for an advanced economy, outside of wartime.

Reason 7: A crude and insensitive Food Brexit is likely to penalise those already most vulnerable within the UK food system – the food poor. The gaps between rich and poor are considerable, and the last seven years of austerity have increased food banks, which are little more than sticking plasters. Volatile and/or rising food prices from a botched Food Brexit will hit the vulnerable even more. One could just about imagine a world without cars but not without food. It is a basic need for all. The next two years will shape whether the UK builds a healthy and secure food supply for all.

Reason 8: The silence about the future of UK food since the Brexit referendum is an astonishing act of political irresponsibility and suggests chaos unless redressed. It is as though there has been a collective amnesia about how Brexit could seriously undermine food security in the UK. The country could sleep-walk into a food crisis, unless these problems are acknowledged and addressed.[9.] Food has accounted for some 40% of EU legislation during the last 50 years. The UK imports about 31% (by value) of all its food from other EU Member States. Not to talk about or plan openly for the disruption that Brexit will cause is bizarre and irresponsible. One thing that business likes is to be able to plan for eventualities. Because of the intrinsic importance of food in Brexit and in the nation, the current UK political system is failing its citizens. That said, politics is not the preserve of elected representatives. It is up to British consumers to make their food concerns clear. Politicians will only look at food in the round during Food Brexit if there is concerted pressure from outside.

Reason 9: Policy debate about improving the UK food system has been frozen for 7 years. It is in a dire state at present. The Government since 2015 has kept its thinking under wraps. Two years ago, the British Government had developed, through Defra, a 25 year Food Plan (intended as parallel to a 25 year Environment Plan) but this was suspended early in 2017, although supposedly 'finalised' under the Conservative-led Coalition in 2015.[10] The Secretary of State for the Environment, Food and Rural Affairs has given a few speeches,[11] but has provided no details, mostly just restating commitments to a two-pronged strategy of (a) an agri-technological push to increase productivity, and (b) a desire to increase UK food exports. In the interval since the Referendum, the present authors have been involved in numerous discussions around the country, with representatives of all the relevant sectors, and there is almost complete agreement that the lack of clarity from the government is worrying at best

and at worst a potentially disastrous dereliction of duty. This is a bizarre state of affairs for the food industry, which DEFRA claims to champion.

Reason 10: UK food legislation is highly Europeanised after 50 years. Whether we like it or not, we are engaged. Food has been one of the most important areas of European legal integration, Brexit entails serious and a highly complex renegotiation of half a century of agreed Europeanisation of standards, rules, regulations, modes of governance, and contracts.[12] To one wing of the Conservative Party, the neoliberals, this is precisely the point of Brexit. Many in the Conservative party want to abolish regulations governing the agricultural and food industries as 'unnecessary baggage' by repatriating powers to the UK rather than sharing them with our Continental partners.[1] They contend that 'efficient farmers' do not need subsidies, and they look forward to 'a bonfire of regulations'.[13] They also discount the repeated calls from the food industries to retain access to EU labour.[14][15] This perspective represents not only a serious danger to food security in the UK, it also threatens UK food companies which would lose their ability to export to EU Member States, because their products would no longer comply with EU standards. The reported interest of one pro-Brexit Conservative MP to see UK environmental standards drop to those of India to facilitate trade is perhaps a harbinger of pressures ahead.[16][d]

To summarise this section, we see very solid grounds for food being a key element in Brexit and for food policy to have higher profile in national debate. This will not just 'happen'. It will need to be made to happen, by public pressure, by concerted voices from science and academia, and by stronger engagement within formal political processes. Alas, at present, there is very little awareness or engagement about the enormous implications of Food Brexit - hence this paper. But before we outline what we think the agenda ought to include, it is worth considering the reasons for the current policy deficit.

The British state has form in taking food for granted, and the British public and academics also have form in pushing it up the agenda. After the 1846 Repeal of the Corn Laws had been legislated, UK farming and rural voices lost their dominance within Parliament, and UK farming was in a decline enduring much of the second half of the 19th century and until the start of the First World War.[17] It took two World Wars to focus official minds on ensuring what we call 'Food Security': a commitment to ensure the UK population has access to a sufficient, sustainable and healthy diet at affordable prices. In 1939-45, drastic action had to be taken to feed the British population.[18][19] Scientists were vociferous in making the case and showing where and how it could be done.[20] Unless the implications of Brexit for UK food security are acknowledged and addressed, Food Brexit is likely eventually to end up with more crisis management. Change can be a long time coming. The 1947 Agriculture Act in effect repealed the 1846 Repeal of the Corn Laws, by committing the UK to taking measures to stabilise food supplies and prices.[21] But that policy shift took a century, two world wars and a recession. We are today addressing 70 years of the frameworks put in and modified since then. The entry of the UK to the Common Market, two decades later, was one such modification. It altered the mechanisms but not the objective.

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d But few UK citizens would accept Indian levels of microbiological food poisoning in the UK; Delhi-belly in Derby or Bolton would be entirely unacceptable.

If and when the UK leaves the EU, the EU will levy tariffs on imports from the UK, including agricultural and food products; which will harm British exporters. The UK will be correspondingly obliged, under the rules of the World Trade Organisation, to impose similar tariffs on imports from the EU, which will abruptly drive up food prices in the UK. This is why studies are beginning to emerge suggesting where and how food prices will rise (e.g. KPMG's July briefing,[2] and the BRC's in April.[3] The BRC estimates tariffs raising commodity prices by 22%. KPMG estimated that a 'Great British Breakfast' (a fried breakfast) would rise in price by up to 12%. This is not what people voting for Brexit were warned might happen.

There will be more such calculations, we expect, as the enormity of Food Brexit seeps through the ideological shutters. The rules of the WTO stipulate that all Member States should treat each other on the same basis, except where they have reached a trade agreement that satisfies the exacting requirements of the WTO rules.   Therefore the UK will not be able to accept imports of food from the UK on a tariff-free basis, while imposing tariffs on imports from other parts of the world. The net result will therefore either be sharply rising food prices or the devastation of UK farming, or both!

This, we suggest, is a crucial time for public debate on the big picture for food. Amidst the Food Brexit processes which we hope emerge, a key recommendation from this paper is that:

- **HM Government should make a clear and explicit commitment to ensuring a sufficient, sustainable, safe and equitable supply of food, and it should set out how that will be achieved when and if the UK is no longer in the EU.**

Unless some such broad commitment is made and delivered, we foresee a danger of the UK's food supply becoming insufficient, increasingly unsustainable, unsafe and inequitable. Moreover, the government should aspire to developing a food system for the UK that will be based on sustainable consumption and production, a 'big idea' anticipated and intellectually accepted by many sections of the UK food industries.[4][5] There is a wealth of scientific evidence to show how far our current position and trends are away from achieving those goals.[6][7] It is the Government which is lagging behind representatives of both producers and consumers.   Ministers must fulfil their responsibilities for the future of the UK's farming and food systems post-Brexit.

A better British food system: what taking back control really means

The policy direction that ought to emerge from Brexit negotiations, if it is genuinely to improve Britain's food system and enhance food security for all UK residents, is quite clear. Even if Government is, so far silent – with both 25 Year Plans for food and environment delayed - the scientific evidence points to clear priorities for what the UK ought to be developing.

This new food policy should aim to:
- deliver improved food security and a resilient food system, i.e. one which can withstand supply, price and safety shocks;

- provide good quality, sustainable diets which are affordable to all citizens, without undermining food security in countries with which we trade;
- prioritise prevention of diet-related ill-health, emphasising both matters of immediate (microbiological) safety and longer-term non-communicable disease;
- commit to high food standards across supply chains;
- prevent food fraud;
- prevent ecosystems damage from resource depletion and pollution, such loss of biodiversity and greenhouse gas emissions;
- reduce food waste from the food chain production to consumption, and recycle food waste efficiently;
- support improved better-than-'living' wages and conditions for the some 3.9 million people who are employed in the UK's food system;
- protect and advance farm animal welfare;
- protect and sustain health populations of fish, crustaceans and other forms of marine life in UK territorial waters;
- establish, maintain and operate a system of governance for agriculture and food that has adequate rules and regulations to protect environmental and public health, using decision-making processes that are open and democratically accountable;
- be underpinned by institutions which are fit for purpose (e.g. safety bodies with sufficient powers and science expertise and authority);
- ensure fair financial returns to all sectors of the food system, protecting small enterprises from predatory or discriminatory actions of large companies;
- help consumers by providing national sustainable dietary guidelines, and healthy food supplies to match those guidelines;
- protect consumers, especially young people, from undue and unhealthy influences from advertising, marketing and cultural media;
- be trusted for prioritising consumers' health and safety, and using relevant and reliable science, while also acknowledging scientific uncertainties and exercising precaution.

These aspirations and policy principles should be incorporated in the new food legislation, which Food Brexit will entail. An estimated 4,000+ pieces of regulation and law are EU based. Whatever replaces them – even if simply moved over into UK law - should focus on the overarching objective of delivering food security, understood in terms of sufficiency, sustainability, safety and equity. This is an approach which would achieve and reconcile scientific and democratic legitimacy.[8] It would be in keeping with the best aspects of the British tradition. The 1860 Food Act, for instance, which emerged from decades of battles about food adulteration and safety, nailed its colours firmly to the mast.[9] All food should be "…of the nature, substance and quality demanded".

That phrase holds good today, but it is not on its own sufficient for a world in which:
o   agriculture and food systems are major sources of environmental damage;[10]
o   poor diets are the biggest factor in premature deaths from non-communicable diseases;[11]
o   agriculture and food sectors are the biggest employers on the planet and in the UK;[12] [13]
o   agricultural policies have turned the success story of increasing food production into the nightmare of obesity;[14]

o new food products are ceaselessly proffered to consumers, intended to add economic rather than nutritional value and to compete in over-supplied markets; around 20,000 new food products a year come onto the US market;[15]
o food is wasted systemically - in the UK over 10 million tonnes of food are wasted annually, 60% of which could be avoided;[16]
o some foods such as milk are sold to consumers close to (and sometimes below) the cost of production, thus driving producers out of business;[17 18]
o young people's food tastes are unduly distorted from an early age;[19 20]
o consumers are not adequately helped to know the impact of their food choices on their health or on the environment, or on the diets of the citizens from which foodstuffs are imported;[21 22]
o a divided food culture has been created and embedded, contributing to health inequalities, where children's life-chances are shaped by the age of 5 years;[23]
o only one in three British citizens trust the Government to ensure that their food is safe to eat.[24]

The EU and food: seeing through the rhetoric

We, like many academics, are troubled by the contrast between what the evidence says should be corrected in the British, EU and global food systems and what is actually happening. Gaps between what the evidence says should happen and what policy-makers actually do is often quite wide,[25 26] and myths and rationalisations can fill the gap.[27] Many Governments are reluctant to take the necessary steps to stop the serious threats to and from food listed above. If they took evidence seriously, issues such as climate change, obesity, diet-related inequalities and ecosystems damage would be prominent in any UK Brexit discussions. In particular, there would be strenuous efforts not to allow Food Brexit to deviate policy attention on addressing these challenges.

Few food systems analysts take the view that being a member of the EU has been consistently beneficial or without frustrations. EU processes can be slow; its approach to modern understandings of the 21st century drivers of food security can be tortuous. Making progress, when 28 nations negotiate all details of all policies, requires serious diplomacy. No wonder the Referendum appeal to 'take back control' had such resonance. But what is the UK leaving to join? The World Trade Organisation has over 160 member countries, and its decisions, and those of the Codex Alimentarius Commission that sets minimum standards for internationally-traded foodstuffs, make their decisions only by unanimity. UK ministers have failed to explain from where they expect the UK to import its food, and at which costs; nor have they explained how food safety standards will be set and enforced after Brexit.

Some of the contradictions and frustrations of EU membership have arisen in how the Community has conceived of a better food system. Like the UK's post World War 2 food policy reconfiguration, the Common Market was created by its six founding Member States in large part to tackle a crisis of under-production, scarcity and uncomfortably high food prices. They, like the UK, wanted a more secure and sufficient supply to provide stability to the food market.[28] That is why the Common Agricultural Policy (CAP) was created: to ensure food

security in the sense of absolute amounts of food – sufficient quantity was the goal. CAP provided subsidies for each unit of production of selected commodities, and without any limitation on the amounts produced. Within about 12 years of its creation, CAP was delivering secure quantities of food supplies for its member states. But once large surpluses began to accumulate, including the notorious 1980s butter mountains and wine lakes, the CAP came into disrepute, at any rate with finance ministries and many citizens, though not with the most productive farmers. The main criticisms of CAP were that, firstly, consumers were subsidising over-production ;[29] secondly that subsidies supported the dumping of surpluses onto the markets of developing countries in ways that undermined their local producers;[30][31] and thirdly, that CAP caused environmental damage through agricultural intensification.[32][33] By 1992 these criticisms had their cumulative effect, winning political support to reform and redirect the CAP.[34] Direct subsidies for production were progressively reduced; instead farmers received so-called area-based payments and money for environmental benefits. These are the so-called Pillar 1 and Pillar 2 system. CAP today is rather different to its public image and reputation, especially in the UK. Another round of reform is in preparation by the 27 member states.

An appeal of Brexit is that, once the UK is no longer an EU Member State, it will be able to decide for itself whether or not to subsidise farmers, and if so for what and how. The Government quickly said after the June 2016 Referendum that it will maintain the current CAP regime in the UK until 2020, and in the June 2017 election, the Tories promised them until 2022. But no clarity has been provided about what regime, if any, will then be adopted. The Queen's Speech was vague, promising only legislation on farming and fishing, as though that deals with the entire food system and food supply.[35] Maintenance of existing subsidies for five years might seem a long time but how are these to be paid for post Brexit? Farmers, the food industry and consumers also need to know now which agricultural activities will be expected and incentivised by the government, and which others will be left to the individual commercial judgement of individual farm managers, businesses or shoppers.

The EU's food-related role is concerned with much more than just farming and CAP. The EU's approach to climate change, for example, and many aspects of EU environmental protection, have been far less problematic or controversial. Neoliberals may not like environmental standards on principle, but they have considerable public support. The EU was a leader, for instance, in pushing for the 2015 Paris Climate Change Accord,[36][37] and has slowly over decades built a formidable array of environmental protection measures, such as for drinking water,[38] air pollution,[39] rivers,[40] and wildlife habitats.[41] It has pioneered controls of industrial chemicals, most recently through a system known as REACH, which stands for the Registration, Evaluation, Authorisation & Restriction of CHemicals.[42] On public health, Member States insisted on retaining control over national healthcare systems, but in the late 1990s after years of food scandals, culminating with Mad Cow Disease (or BSE), the EU developed in 2000 an EU-wide food safety régime,[43] with the establishment of the European Food Safety Authority (EFSA) in 2002. It also began a modest programme of health promotion with financial support for fruit and vegetable consumption, given that the CAP has not, and does not subsidise horticulture.[44] Unless the UK thinks it can seriously feed itself, laws and regulations such as these have to be negotiated with countries which feed us. That food infrastructure underpins 'British' food, yet has not been acknowledged in the narrow Brexit debate so far. This failure must be corrected and the British people think carefully

about what its loss entails.

Following the 1992 UN Rio Conference on Environment and Development, the EU offered to lead in policy development on 'sustainable consumption and production', the so-called SCP agenda. In reality, more attention has been given by the European Commission and Member State Governments to sustainability aspects of production, rather than to consumption. This was a missed opportunity, as research showed there was considerable consumer appetite for engagement.[45][46] In 2007-08, emboldened by the banking and commodity crises, the European Commission began to develop a policy approach to sustainable consumption. This could have been a world-leading signal of the urgent need to recalibrate consumer diets to reduce both adverse environmental and health impacts.[47] With a Sustainable Food Communiqué fully prepared, with considerable food industry support,[48] the new policy framework was jettisoned by the incoming EU President Juncker. In our view, this was and remains a mistake. In its place, the Commission has nominally committed itself to supporting a potentially useful, but consumer-blind, Circular Economy approach.[49][50] That approach sees food just as a set of material commodities, not as a cultural or public-health issue, which can be addressed using engineering and technology rather than active public policy interventions or consumer engagement.

Clearly the UK's experience of being in a European Union of now 28 countries is not without its frustrations. But the EU has, at least, been more open and clear about its processes, than has the UK government; and the EU has a core commitment to maintain food security. Leaving the EU means the UK must replace much that the EU has achieved, rather than leaving us with nothing to fill a policy vacuum.

What ought to happen, Brexit or no Brexit

The food system of a rich, developed nation such as the UK, let alone a Union of 28 countries such as the EU, is complex. Countries all over the world are struggling to come to terms with increasing bodies of scientific evidence of the harm being caused to public and environmental health by our prevailing food regime. Back in 2008, the UK government's Cabinet Office report entitled *Food Matters: Towards a Strategy for the 21st Century* acknowledged that the UK's food system was chronically unsustainable in a wide variety of ways.[51] Clarity will be needed as to what is meant by 'sustainable'. *Food Matters* refined this to mean low carbon and healthy. Others argue that for food sustainability is inevitably multi-criteria. Issues of quality, diet-related health, environmental protection, social and cultural values, economic worth and good governance all deserve to be incorporated into a policy framework for food security.[7] If so, these must all be addressed, not just a few cherry-picked.[52] There is growing scientific agreement that food requires multi-criteria frameworks. Food cannot be pigeon-holed as a matter of just nutrition, say, or farming or employment. It invokes many issues, many sectors, many factors. That is why it requires 'multi-criteria' approaches from policy-makers. A decent Food Brexit would have to plan with this approach, and would draw on the latest evidence-based thinking, such as the Global Panel on Agriculture and Food Systems for Nutrition (GLOPAN),[53] or the forthcoming EAT-Lancet Commission on Healthy Diets from Sustainable Food Systems.[54]

Brexit or no Brexit, like many rich societies, the UK food faces multiple challenges that it cannot ignore even if it wants to. A sensible food policy would begin a process of change on multiple fronts. That is why many analysts now talk of food illustrating the case for 'systems change'. Even if a Government decided solely to focus on carbon reduction in the food system, believing this was just an 'environmental' task, it would actually have to begin to alter consumption and production of less meat and dairy products, because these are big factors in the UK's carbon footprint. Government would thus enter into public health policy. That in turn would quickly mean having to address the case for growing and consuming far more horticultural produce than is currently the case - a good idea anyway. The UK should be pioneering better, simpler, healthier diets, and giving clearer direction for land use to that effect. And this, in turn, would require Government to face a coming crisis over food labour, skills, training and pay, because horticulture is held back by decades of failing to invest in these. That is a big political challenge, not least since it implies cultural change, too. Systems change cannot be left to individual choice. Or if it is, it's an excuse for inaction. The population needs help to eat better and more responsibly, if we want to cut the cost of diet-related ill-health to the NHS. If so, more needs to be done to tame the marketing of unhealthy foods, drinks and diets.

We ought, too, to be prepared to pay above what is misleading called 'the living wage' for food work. We should shorten food supply chains, wherever appropriate, and cut down on their wasteful logistics – fewer producers means longer trucking routes. Governments also should be tackling runaway market concentration. They should also be narrowing the gap between highest and lowest paid employees to build responsible corporate cultures; supposedly we are 'all in this together'. The government should rebuild public sector scientific and technological capacities ranging from veterinarian science to waiters and *baristas*. The government ought to promote green procurement not just in public sector but also private sector food service contracts. We ought to teach all children how to cook and to know the rudiments of gardening, to understand where food comes from.

So what started as simply as an 'environmental' strategy quickly has to adopt a multi-criteria approach.

Besides the scope and range of change the UK must now begin, there is the challenge of the pace of change needed. Some see this as a confounding factor. The June election and political splits mean already one sixth of the 'negotiation' time is gone. The hope of a smoother, more orderly Food Brexit is fading. Some are not unhappy; it makes 'no deal' more likely, i.e. the UK crashing out of the EU. A House of Lords Committee has already cautioned that there might need to be a long (perhaps even 10 year) period of transitional arrangements.[55] What is clear is that we need immediate debate and government actions which begin to set out a clear and long-term framework for dealing with these public needs. This cannot wait until 2019, nor must it assume such short-termism.

All this change will be highly politicised. Food Brexit is suffused with politics. Big business interests compete with each other. British NGOs, long used to lobbying at Brussels, must now focus intensely on the UK and the devolved administrations. Some argue that this will be good for business, and that shake-ups ultimately always are, however painful they may be in

the short-term. We are less sanguine. Attention must be given to democracy. Powerful interests are actively arguing in favour of their interests, but behind closed doors. The public must be made aware of the manoeuvring. The Government's Food Brexit negotiations must be carefully scrutinised. Consortia of food industries already meet at Defra regularly, as they are entitled to do. But are there equally regular meetings for the food poor, or for civil society, or with those championing public health or the environment? Alas no. Political inter-mediation is extraordinarily lop-sided.

Key Challenges and Policy Hotspots for Brexit Food Britain

Although there is great frustration at the UK Government's poor engagement with Brexit's impact on the UK food system, a rare point of agreement across the food sectors, civil society and academia (and indeed within Parliament and the civil service too) is that the coming period will be one of unprecedented complexity and novelty. This will require the government, amongst others, to pay considerable attention to the details whilst also retaining sight of the big policy picture. That mix is so far lamentably lacking. In this section, we outline some of the specific challenges ahead, which we believe will determine whether the UK food system becomes better or worse – more sustainable or less, more food secure or less, more unjust and distorted or less so. This is where we apply the criteria we raised at the beginning of this paper. Other hotspots will undoubtedly emerge during the UK-EU negotiations. And we look forward to more being raised by outside voices over coming months.

Our central case is those in the UK government with responsibility for food and agricultural policies should be focussed on enhancing UK food security by creating an effective food system that delivers ecological public health, consumer satisfaction and trust, high quality food economy and products, employing people with decent jobs. This task is also the responsibility of governments in other countries. Doctrinaire Brexiters may think the UK is going it alone when exiting the EU, but its responsibilities are not in fact singular but shared. There is a serious risk, in particular, that the rhetoric of 'taking back control' will be used as an excuse for abandoning the EU's high EU food safety and quality standards in favour of lower standards such as those the prevail under the rules of the World Trade Organisation (WTO). When the UK is no longer a member of the EU, it will still need to deal with, for example, the ways in which the food system currently contributes to climate change and the epidemic of obesity, and all the other respects in which our food system is insecure and unsustainable.[56]

1. New goals and outcomes for a more sustainable food system

Good governance requires clear goals and robust performance measures which are transparent and, importantly, outcome–based.[e] A sustainable food system, which delivers

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[e] we are also mindful that not everything that counts can be counted.

sustainable diets, needs to be understood and managed by reference to multiple criteria rather than any one single criterion. Although prices, for example, are important, it would be foolish to assume that everything important about food can be reduced to its price. Equally, although food is a key determinant of public health and the environment, it would be simplistic to say that only those two considerations matter. As was argued above, food is a classic example of why multi-criteria approaches often have to be adopted in public policy. Food Brexit is an opportunity for the British public to ask basic questions about whether the criteria being applied by the politicians are right. British consumers need to ask: 'what do we want?' And to receive sound replies rather than rhetoric from the Government to that question!

How can we take proper account of all the different issues that matter to us in food policy-making? Since Brexit requires the British government to make choices and take decisions about the future of food and farming in the UK, this is a key moment when the British public should ensure that food and agricultural policy choices are taken in an open and accountable manner; leaving them fragmented, unspoken and unexamined would be a one-way ticket to disaster. Brexit must not be a moment when standards slip back.

In the early years of the EEC, from 1958 onwards, much of its policy focussed on the agricultural sector. Today, EU regulations and directives cover almost all aspects of the food chain. EU regulations, communiqués and directives govern not just farming, but also the agricultural supply industries, but they also cover transportation, processing, retail, food service, health and safety for farm workers and consumers, communications along the food chain and information to consumers (e.g. labelling). This is why there is growing pressure within the EU to shift from CAP to a more openly comprehensive food policy.[57]

Any post-Brexit UK food policy regime system will have to replace that legislative array with another system of statutory regulation, which will need to be set by reference to a clear vision of the government's chosen policy goals. The UK will need new criteria and metrics by which the public, industry and government will be able to judge the performance of the food system.   Our argument is that, given the fact that the current UK food system is insecure and unsustainable in too many respects, the goals of the UK's post Brexit food and agricultural policy regime should be focussed on enhancing food security not just by ensuring sufficiency, but by enhancing sustainability, improving food safety and diminishing socio-economic inequities.

One example is land. Land is sometimes said to be a nation's ultimate source of wealth. As Mark Twain reputedly said 'they don't make it any more' but how we treat it is a policy choice. We can see land as a source of beauty and recreation or as 'blotting paper' on which to grow food. It can be thought of as a carbon sink or water filter, as a source of cultural identity or a set of tourist attractions. Land is increasingly multifunctional. That said, there is a strong case for all land on our planet now to be judged by how many people are being fed per hectare.[58]. In this respect, the UK's current patterns of land use is rather poor. UK agricultural land policies are failing to appreciate the multi-functionality of land, and downgrading its role to one narrowly focussed on food production.

Two recent studies provide powerful evidence. The first found that the global footprint (land use) associated with UK's food and feed supply increased by 2022 kilohectares (kha) from 1986 to 2009, a rise of 28%.[59] De Ruiter and colleagues calculated that the UK is currently importing over 50% of its food and feed, whereas 70% and 64% of the associated cropland and greenhouse gas emission impacts were located abroad. Feeding the UK, in other words, is increasingly using more of other people's land. The second study showed that 85% of the UK's total land footprint is associated with meat and dairy production, but only 48% of total protein and 32% of total calories derive from livestock. [60] If ruminant use decreased, more land would be freed for other uses such as horticulture and/or biodiversity – thus resolving the supposed conflict between land-sharing and land-sparing.[61][62] It could well give room for re-wilding, too.[63]

From a food perspective, it's certain that more UK land could and should be used to produce crops for direct human use. Rather than some 40% of grain produced being fed to animals, the UK should begin a transition towards a more ecologically efficient food system, while rebuilding food security and supply. This requires a stronger focus on plants rather than animals. This would also help meet health guidelines, which recommend more plant-based diets rather than a reliance on meat and dairy products.[64] A recent meta-analysis even suggested that the optimal health advice might not be 5 portions of fruit and vegetables a day, which the UK currently fails to reach,[65] but nearer ten a day.[66]

Enhanced UK food security will require:
- An open and accountable process for debating what the goals and performance measures of the UK's post-Brexit food systems should be, and setting interim ones by March 2019 when Brexit is set to be over; even if Brexit does not happen, this process will be invaluable for a reinvigorated approach to UK food policy;
- A clear and usable set of criteria and metrics by which to appraise a post-Brexit UK food system should be created; this should be subject to review and updating by existing scientific advisory committees, co-ordinated we suggest by our proposed new National Commission on Food and Agricultural Policy;
- sets of Key Performance Indicators (KPIs) for each of the sectors across the UK's food chain; these should include logistics, ecological impacts, social and economic effects, i.e. be multi-criteria KPIs.

2. New Food Act(s)

New food legislation is inevitable and its planning should be an urgent priority.[f] HM Government's June 2017 Queen's Speech talked only of agricultural and fisheries legislation.[35] This is important but by no means the sum of what has to be enacted. Laws and regulations are all contingent on wider Brexit politics, we recognise, not least due to the

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[f] A Cabinet Office specialist once told one of the authors "we don't need farmers, we can buy on open markets'. True, but showing some confidence in national rights and capacity to out-bid countries with more ample coffers.

realities of the hung Parliament. Our concern, however, is that, if some protagonists have their way, any new legislation may be 'lite', barely scratching the surface of what is needed. There are powerful forces within HM Government and the Conservative Party who want this. They want the legislation to adopt a *laissez faire* attitude to commerce and industry, rather than one that focuses on the non-commercial consequences of the production and consumption of food. What will be needed will be a comprehensive set of provisions, providing a new direction for the UK food system which addresses the real challenges of enhancing food security.

The *Great Repeal Bill* White Paper offered little guidance as to what legal framework might emerge from Food Brexit.[67] The *Great Repeal Act* transfers EU legislation into UK law, but with no indication of how it might change in the aftermath. Optimists might argue that this means improvements can subsequently be introduced. Eurosceptic neoliberals have other ideas. They anticipate, in effect having their fingers on a 'delete' button to abolish the many laws and provisions that they dislike and perceive as burdens on producers and food businesses. We recommend caution. To abolish controls on pesticide residues and the REACH framework,[42] for example, might please a few farmers and agrichemical companies, but would not be appreciated by the British public, nor would it improve public or environmental health. The British public wants food standards to rise not fall. Hence this needs to be 'a race to the top', not to 'the bottom'.

No food safety regulations should be modified without Parliamentary and public scrutiny. Ideologically-dominated lobbies such as the Adam Smith Institute and the Institute of Economic Affairs might think food regulations are 'burdensome', but the Faculty of Public Health (which represents public health doctors and specialists) and the Chartered Institute of Environmental Health (the professional body of national food inspectors) see those regulations as providing indispensable protections. The clash between these perspectives is important.

We want to see a new *Food Act*(s) set out a new framework for UK food, which will transform the UK food system into one that is substantially more secure than the one we currently have. The legislation should cover an interlocking set of considerations, and set corresponding requirements. The new Food Act(s) must facilitate a transition to a far better food system for the UK. Or else, the Referendum talk of 'taking back control' was hollow. Who wanted 'control' for a worse food system? The new Food Act(s) must be both practical and aspirational, as the 2008 Climate Change Act was.[68] A Food Brexit could conceivably provide an opportunity to clarify and re-set the UK food system, but at the same time it raise risks that the UK food system will become ever more insecure. And if the UK remains in the EU, or only the Single Market or Customs Union, such policy direction would be invaluable, too.

One significant source of risks to food safety in the UK post-Brexit comes from the imposition of a government policy that was initially called 'One in, One out'. In 2005 the Better Regulation Task Force (a cross Government body) recommended a policy that came to be called, slightly misleading 'One in, One out'.[69] That report stated that: "[w]e need a 'One in, One out' approach to new regulation, which forces departments to prioritise between new regulations and to simplify and remove existing regulations. This will complement the administrative cost reduction programme." (page 3)

By the phrase 'One in, One out' it did not mean that before a new regulation could be introduced into the UK, another regulation on the same sector had to be rescinded. It meant that before a new regulation could be introduced, the costs of compliance with that new regulation had to be estimated, and that other prevailing regulations, with costs of at least the same magnitude, should be rescinded. Brushing aside that clarification, subsequently the regime shifted to 'One-in, Two-out', and in 2016 the Secretary of State for Business Industry and Skills proposed a shift to 'One-in, Three-out'.[70] Sajid Javid, the then Business Secretary, said:

> "This government is delivering on its commitment to free firms from £10 billion of heavy-handed over-regulation and build a more productive Britain. [....] Whenever we need to introduce new rules, we will consider their impact and make savings elsewhere. Through the Enterprise Bill, we are extending the scope of our deregulation target to cover the actions of regulators, going further than ever before to tackle troublesome red tape. [...] The move to One-in, Three-out for new government legislation raises the bar and will help drive delivery of the £10 billion target." [70]

An important feature of the policy which the Department for Business, Energy & Industrial Strategy (which replaced BIS cited above) refers to as 'Regulatory Delivery' is that it focuses solely on compliance costs for industry, and entirely neglects the full value of the benefits that regulations can entail, such as improved public and environmental health. It completely fails to take account of the costs that could be anticipated as a consequence of failing to regulate, or of dismantling regulations that protect public and/or environmental health. The core foci are familiar but overshadowed by Brexit: competitiveness, trade facilitation, pursuit of 'excellence'.[71]

It is important to appreciate that the In-Out rule could not lawfully apply to EU Regulations or Directives, such as those that cover the agricultural and food system. As an EU Member State, the UK had to adopt and apply those statutes and provisions. Once the UK is no longer a member of the EU, that limitation will no longer apply. That could mean that, for instance, in order to have less *campylobacter* contamination of UK food we will need to accept more *Salmonella*. Or it could mean that tighter standards to avoid bacterial food poisoning will be off-set with weaker controls on, say pesticides, additives or contaminants. The UK government has provided no indication whatsoever that the 'One-in, Three-out' rule will not be applied to British regulations covering the UK food system. Unless and until that omission has been corrected, UK government policy will represent a severe threat to the regulatory standards that are needed to protect public and environmental health. One only needs to consider that standards need to be toughened up - one thinks of matters such as neonicotinoid pesticides now firmly associated with reduced bee populations,[72] or the over-use of antimicrobials in animal production[73] - to see the vital importance of having higher standards. Rubrics such as One-in, One-out are crude rules.

- new legislation which puts human and environmental health at the heart of the UK's 21st century food system;
- a legal commitment, embodied in legislation, to ensure that the UK food system is secure in the sense of providing sufficiency, sustainability, safety and equity.
- A guarantee that regulations of the agricultural and food sectors are exempted from the provisions of the 'One-in, Three-out' rule.

3. Food security, resilience and sustainability

Some argue that, as a rich country, the UK does not need to grow food or to use its land for sustainable food production. It could simply buy much more of its food on world markets. It could be fed by others, who would benefit from the export markets and income.[g] This is a modern version of the argument which seduced a powerful section of the British in the early to mid 19thcentury, and was enshrined by the 1846 Repeal of the Corn Laws. Some caution is in order today. Firstly, world commodity and food markets are not controlled by dynamics that ensure good supplies, let alone price stability.[h] Over the last two decades, and particularly since the 2007-08 banking crisis and ensuing recession, rich countries have been reminded that world markets and food prices can be unstable. Food prices no longer decline steadily over time. Indeed, the OECD, FAO and others now judge that volatility and uncertainties are the 'new normal'.[74] Secondly, it assumes the UK has some right to take primacy in market purchases, when it is no longer an imperial power, nor does it have military might to control supply chains. And thirdly, power has changed; today other countries have equally deep (and some deeper) pockets than Britain in markets. And fourthly, locking low income countries into export dependency can distort their internal markets, and local food needs.

Concerns about food security have already been articulated to the UK government by the powerful British farm lobby.[75]   Self-sufficiency is not the same thing as food security. The UK could deliver to its consumers the same amount of, say, all-year-round tomatoes from a new generation of energy-guzzling poly-tunnels, or it could import them from afar or it could shift its culinary culture to eat them only seasonally. In each case, it will still be relevant to ask, by whom they will be grown and harvested, and what standards of production and hygiene will be achieved? And to ask: what is the most secure and sustainable vision? This is an example of where being open about adopting a multi-criteria approach to food becomes indispensable. Does the British public want British food at all costs, or to give equal importance to other issues such as carbon emissions or water use or labour conditions or to

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[g] A Cabinet Office specialist once told one of the authors "we don't need farmers, we can buy on open markets"; this may be true, but it displays astonishing policy arrogance about national rights in global markets, and some faith in the UK's capacity to out-bid countries which now have deeper coffers!

[h] The initiatives were summarised by the FSA: https://www.food.gov.uk/sites/default/files/multimedia/pdfs/saltreductioninitiatives.pdf ; and by Consensus Action on Salt and Health: http://www.actiononsalt.org.uk/UK%20Salt%20Reduction%20Programme/145617.html

prices? The decision is not just one for individual consumers, it is one for the entire food system, and one over which the UK government should have considerable influence in coming months of trade negotiations. Here the adoption of explicit 'full cost accounting methods' in assessing food production and its trade will be critical.[76]

At present, the UK's aggregate food supply is currently sufficient. But questions do need to asked about what a sustainable version of food security would translate as for a country such as the UK.[77][78] At present, food flows into Britain from many countries. The UK produces 61% of its current food usage.[13][79] Defra's default line has been that a diversity of suppliers is what matters for food security.[80][81] As along as the British are fed, it does not matter much to the government whence or how. We think this is short-sighted. There is much scientific evidence that land use needs to be rethought. Carbon dioxide emissions from the agricultural and food system need to be substantially reduced, as do levels of water use.

Following the 2007-08 banking and commodity crises of 2007-08, a rethink of UK food policy along such lines began. This emerged first as the Cabinet Office *Food Matters* report,[51] then spawned new UK Food Security thinking,[80][82] and culminated in the Government's *Food 2030* strategy paper.[83] A comprehensive food policy was emerging, developed in collaboration with the UK's devolved administrations. Alas, the Coalition dropped it, but it is now ripe for resurrection. A recent report led by the former UK Research Council's global food security champion, and requested by Morrisons supermarket, summarised how the UK food system cannot ignore global pressures on the food system, and made the case for increasing UK food production within a multi-criteria approach to food and farming sustainability.[84][83]

In conventional business terms, the UK food system is not in perfect shape. It imports far more food than it exports. Figure 1 illustrates the value of UK imports and exports of food, feed and drink from 1984-2014, in 2015 prices. Exports are the lower line. Since 2015 the gap between imports and exports has widened to an annual deficit of £20.5 bn. The main source of those imports is indicated in Figure 2, which shows a very heavy reliance on EU Member States.

Figure 1. Value of UK trade in food, feed and drink, 1984-2014, at 2015 £ prices
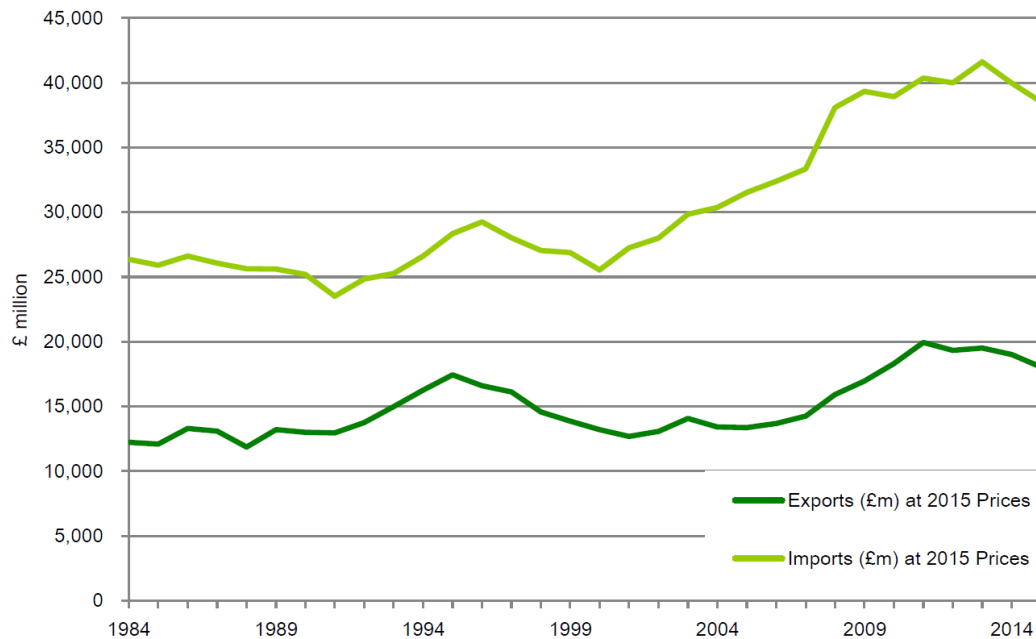
source: Defra 2016, page 85[13]

The UK exports mostly highly processed products. Whisky is the UK's most commercially valuable export. And the UK imports more primary food produce than it exports across the main commodities. Even milk and cream imports have doubled since 2006 whilst exports have declined. Food trade figures contain some surprises. The UK – which often likes to think of itself as a meat producer – actually imports more beef, poultry, pork and lamb than it exports. Table 1 gives the figures from HM Revenue and Customs (HMRC) for 2015.

Figure 2. Imports of food, feed and drink, by country of dispatch, 2015, by £ million
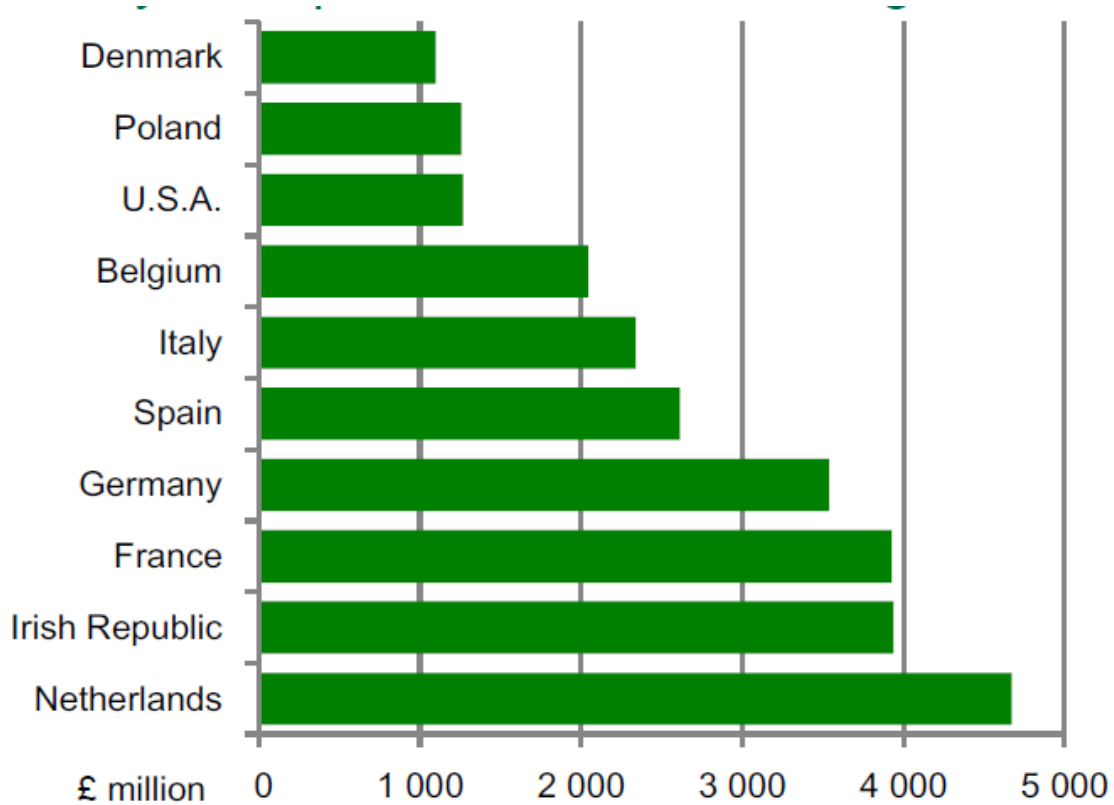
source: Defra 2016, page 85[13]

The UK exports mostly highly processed products. Whisky is the UK's most commercially valuable export. And the UK imports more primary food produce than it exports across the main commodities. Even milk and cream imports have doubled since 2006 whilst exports have declined. Food trade figures contain some surprises. The UK – which often likes to think of itself as a meat producer – actually imports more beef, poultry, pork and lamb than it exports. Table 1 gives the figures from HM Revenue and Customs (HMRC) for 2015.

Enhanced food security in the UK will require:
- a commitment to rethinking UK food security, in part by producing more food, sustainably in the UK;
- a comprehensive review of food security at present, looking at different sectors and consumption patterns to consider where land use, healthy diets and production capacity could be improved.
- new goals and criteria for enhanced food security. These should be drawn up for application to the UK, building on the preparatory work conducted by Defra in 2008-11. These should incorporate the thinking articulated by the former Global Food Security Champion.
- creating the physical and virtual infrastructures (retail outlets, food hubs) for stimulating and serving shorter and more localised supply chains, especially in the horticultural sector.

Table 1. Trade in Key Agricultural Commodities, at 2015 prices

£ million										Calendar year	
Commodity	Flow	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 (provisional)
Whisky	Imports	137	115	122	134	136	137	136	167	198	223
	Exports	3 037	3 365	3 555	3 574	3 802	4 564	4 542	4 458	4 059	3 942
Wine	Imports	2 808	3 003	3 241	3 066	3 180	3 215	3 348	3 263	3 102	3 006
	Exports	206	244	269	361	462	575	462	456	460	447
Cheese	Imports	1 065	1 088	1 358	1 321	1 321	1 342	1 368	1 479	1 459	862
	Exports	277	282	320	315	368	428	424	452	470	386
Poultry meat	Imports	848	908	894	952	1 028	1 142	1 010	1 016	1 061	1 064
	Exports	193	234	247	257	282	325	298	349	306	238
Poultry meat products	Imports	522	558	685	699	742	844	835	866	890	913
	Exports	105	146	155	135	137	152	143	129	136	115
Beef and veal	Imports	751	717	842	800	832	908	902	973	984	1 032
	Exports	111	147	242	287	358	463	404	380	376	342
Wheat, unmilled	Imports	160	243	363	286	217	240	418	674	347	276
	Exports	229	270	459	339	491	436	281	88	165	264
Lamb and mutton	Imports	339	327	356	425	413	436	384	391	408	392
	Exports	280	214	298	352	346	396	367	391	381	302
Pork	Imports	820	784	765	708	709	766	718	755	701	612
	Exports	120	103	150	129	161	181	197	222	210	197
Breakfast cereals	Imports	124	135	166	202	186	195	195	188	195	228
	Exports	379	367	401	460	396	403	375	383	363	369
Milk and cream	Imports	55	62	90	84	111	126	122	145	135	116
	Exports	214	214	227	218	266	314	263	264	263	193
Bacon and ham	Imports	661	659	781	853	776	716	675	658	603	537
	Exports	31	35	82	57	48	63	38	40	38	38
Butter	Imports	402	267	265	267	309	339	313	325	269	263
	Exports	72	77	62	64	87	136	106	148	149	115
Eggs and egg products	Imports	110	125	150	171	150	138	197	184	175	185
	Exports	29	30	43	51	50	51	62	92	97	96
Fresh vegetables	Imports	1 849	1 925	1 976	1 911	2 043	1 980	1 942	2 128	2 022	2 088
	Exports	58	57	62	73	80	77	74	72	80	98
Fresh fruit	Imports	2 504	2 515	2 718	2 715	2 713	2 804	2 814	2 991	2 890	3 066
	Exports	130	94	97	106	109	106	84	111	78	97
Salmon (inc. smoked)	Imports	170	169	171	219	242	267	263	352	369	328
	Exports	237	227	239	323	422	512	460	586	619	488

Source: HMRC

source: Defra 2016, page 89[13]

4. Deciding where UK food should come from

The June 2016 Referendum brought to a head years of tension over EU membership, notably within the Conservative Party – hence Prime Minister David Cameron's promise to hold a referendum. Retrospectively, he has said it was necessary to end the 'poison' of populism, a rather strange verdict since it merely set up new tensions.[85] The June 2017 General Election showed these have not been dissipated. There are many positions jostling for influence within and beyond HM Government. These different political traditions become very real over food. Some have already surfaced as:
o   economic nationalists who want to build UK food sourcing, almost at whatever cost;
o   pragmatists who want to maintain a 'cheap food' economy and to deliver this in whatever way will be least disruptive;

o   pro-Europeans who want to maintain trade links within Customs Union and the Single
   Market and not to disrupt hard-won and highly organised supply chains across the EU;

o   Enthusiasts for global liberalisation, who argue that the UK should source all its food from
   wherever it is cheapest, with little or no regard for considerations of public or
   environmental health;

o   business sectors who fear new disruption and volatility, whatever framework emerges.

Cutting across these various political positions are the qualitative and regulatory aspects of all
trade relations with regard to food. Consumers who merely buy food and expect it to be
plentiful in the shops are barely aware of the vast infrastructure to the food system. In this
sense, there is no such thing as 'free trade'; it is all negotiated, the result of compromises and
competing interests. The Food Brexit negotiations, occurring on a tight timetable, are set to
generate highly significant changes to trade relations and regulations. A particular danger, we
envisage, is that the UK's existing import dependency means – if it does completely break
away from current EU food sources – that UK consumers will be forced to accept food
sourced from non-EU countries with significantly weaker food safety standards.

British consumers, when polled, often say that they want to buy British food. And they say
they trust it more than imported foods.[24] Retailers are conscious of this. But what is 'British'?
Can it include a product manufactured in the UK but made entirely from ingredients sourced
abroad? Or is it only food and processed grown in the UK? Or is it merely a brand image? Or
does it mean 'traditional', long-rooted in culinary history, or can it be new? These are
important questions, going to the heart of some of the 'British' identity issues which were
exploited in the Referendum. What is 'British' about tea grown in Assam but marketing as
from a particular English county? Or a pie which has ingredients from many EU countries but
is a British recipe? Or strawberries grown in Kent but picked by Romanians? The cultural
designators are more fluid than the label. The Identity issue becomes even more blurred
when one learns how foods criss-cross borders before receiving the final label as 'made in X'.
Despite these realities, the public desire for British and/or local food remains. A Food Brexit
exposes how debate needs to get more real. Whatever the public might desire might not be
realistically achievable. Or, if it is forced through, the consequences for diet and availability
need to be spelled out.

A hugely important issue shaping future food sourcing, if the UK leaves the EU, is the issue of
tariffs. Tariffs are taxes imposed when a food crosses a border. The EU is a single market;
there are no internal tariffs. But there are tariffs on foods coming into the EU. A 'hard Food
Brexit would mean UK food receiving tariffs of 22% according to the British Retail
Consortium.[3] This would have an immense impact on supply chains – think of all the foods
which cross UK-Irish borders, for instance – and would almost certainly add to food price
inflation.

Bananas are the UK's favourite fruit but none are grown commercially in the UK. Most come
from the Caribbean or US agribusiness plantations in Central America. The fruit Britain could
grow more of such as apples and pears are massively imported. Overall, the UK produces
about 15% of the fruit it consumes, and 55% of its vegetables.[86] Consumption of both should
be far higher for health, of course. There is a serious mismatch here between identity,
aspiration and reality, but there is also room for economic expansion – why not a massive

planting of new orchards? This could be beneficial for health, economy and environmental externalities if well managed, but is a policy issue left hanging since the 2010 report of the Fruit and Vegetables Task Force.[87]

Even if the UK was fully committed to globalised liberalisation, such a policy would be risky in a world where many of the UK's potential trading partners either reject globalised liberalisation, or are actively retreating from it. Moreover, that approach implicitly assumes that people in the UK are willing to sacrifice food safety in return for cheapness. This is a risky assumption.

One source of cheap foodstuffs could be the USA, and some seeking a hard Food Brexit anticipate the UK becoming an importer of cheaper mass-produced US food products. US food safety standards are, in several important respects far below those that now apply in the UK and EU.   Four examples serve to illustrate this concern: beef hormones, bovine somatotropin (BST) used in milk production, genetic modification (GM) of crops, and the use of chlorinated disinfectants to reduce bacterial contamination of poultry carcasses.

Beef hormones

Many beef producers in the USA use implants of synthetic hormones under the skin of their beef cattle as growth promoters. For a given amount of weight gain, the animals need to eat less feed than they would if the hormone implants were not used. The advantage for the farmer is clear: faster growth, more throughput, price-competitiveness. But what about the consumer? While the USA has deemed meat from hormone-treated cattle to be acceptably safe, the European authorities have concluded that the use of those hormones is not acceptably safe.[88] The reason why the US and EU authorities have reached different conclusions is because they have asked different questions, and consequently reached different conclusions. The US assessment addressed the relatively narrow question of whether it is safe for average healthy adults to consume beef produced using synthetic growth-promoting hormones. European risk assessments have been framed more widely, to consider the possible adverse effects on not just average healthy adult consumers but also for vulnerable groups, and in particular to pregnant women, pre-pubescent children and people with weak immune systems. The EU assessment concluded that beef from hormones-treated cattle posed risks to those vulnerable groups, and therefore recommended against permitting the use of those hormones in EU beef production. Currently it is unlawful to import beef from the USA unless it can be guaranteed to have come from animals that were not treated with hormone implants.

Bovine somatotropin in dairy cows

The US authorities permit American dairy farmers to inject their dairy cows with a synthetic hormone that in the USA is called BGH, or bovine growth hormone, while in the UK and the EU it is called recombinant bovine somatotropin (or rBST). One of the main reasons why rBST is not permitted in the EU is because the European expert advisory committee did not just accept the conclusions from eight separate studies that failed to show evidence of adverse effects. They took into account the fact that those eight studies used the same experimental protocol, and therefore recognised that the data from the cows in all eight studies could be pooled, which provided a far more sensitive test. Pooling the data, in what is known as a meta-analysis, showed that the use of rBST caused statistically significant increases in mastitis

in the treated cattle, compared to untreated cows. Mastitis is an infection of the udder, and one consequence of having cows with more mastitis is that more of them are treated with higher doses of antibiotics, which results in higher levels of residual antibiotics in the cows' milk, as well as higher levels of what dairy scientists refer to as a 'somatic cell count', which is a polite euphemism for 'pus'.

The EU's Scientific Committee on Animal Health concluded that "BST administration causes substantially and very significantly poorer welfare because of increased foot disorders, mastitis, reproductive disorders and other production related diseases. These are problems which would not occur if BST were not used and often results in unnecessary pain, suffering and distress."[89] Consequently milk and dairy products from cows treated with BST cannot lawfully be imported into the EU, and it is unlawful to administer BST to dairy cows in the EU.

GM crops and animals

The US authorities permit far more varieties of GM crops and food to be lawfully produced and sold than do the EU authorities. Moreover, while EU legislation insists that the presence of GM ingredients must be labelled, except if the GM component is at a level of less than 1% of the relevant material in those particular products. In the USA there is no mandatory labelling requirement, a concern that also applies to beef from hormone-treated animals, and milk from cows treated with rBST. One of the reasons why EU and US policies on GM foods do not coincide is because the terms of reference for European scientific advisory committees are significantly wider than that used in the USA. In the USA, GM foods can be deemed acceptably safe just as long as chemical analyses of levels of e.g. proteins, vitamins and carbohydrates of GM foods are within the range of their non-GM counterparts, in which case the US authorities deem them to be 'substantially equivalent', and no further tests are required.[90] The EU authorities take account of such chemical analyses, but treat them as a starting point for a safety assessment, rather than as an end point. European authorities require data from at least some toxicological studies, which are not required in the USA. It is also clearly the case that European consumers are concerned not just about issues of food safety, but also about the corporate strategies of the companies promoting GM foods, and their aspirations to gain oligopolistic control over, for example, the supply of agricultural seeds.

Poultry dipped in chlorinated disinfectant

In both the USA and EU, as well as the UK of course, there are growing problems with bacterial and viral contamination of poultry flocks and poultry meat. In the UK, levels of campylobacter have risen so alarmingly that the UK Food Standards Agency (FSA) advises all UK consumers never to wash poultry carcasses or meat. The FSA argues that, just as long as chicken meat is cooked thoroughly, the bacteria will be killed and therefore no longer pose a risk of food poisoning.   Most consumers on the other hand do not want to eat well-cooked chicken 'shit', they would rather buy and eat meat that can safely be handled and washed. In the USA, to try to combat problems of microbiological contamination of poultry meat, it is a legal requirement that, before being offered for sale, the meat is dipped in disinfectant, which most commonly is a chlorine-based product. That practice is not lawful in the EU or the UK. Moreover, US poultry meat is not labelled as having been dipped in disinfectant. This

issue is one of the few matters about food standards that has received some public attention, and went viral when covered in early 2017.[91] There will be more.

In all the above four examples, US food safety standards are lower than those prevailing in the EU and the UK at present. It is not clear that UK citizens would be willing to accept a lowering of those standards. Nor would they accept the end of UK/EU labelling requirements on food sold in British retail or food service. If a chicken has been dipped in chlorine, they would probably want to know that. It is over these apparent minutiae that UK government ministers will have to negotiate in Food Brexit. The silence so far is worrying and suggests either that they have not appreciated the problems that might arise from a 'free-trade' deal between the UK and the USA. Or that they do not want them to be discussed.

Enhanced food security in the UK will require:
- a national debate about food sourcing, food standards and food labelling;
- a deeper exploration of public attitudes about British food, and ways of ensuring that UK consumers and citizens are well-informed about how and where their food is produced;
- a thorough understanding of the full cost implications of rising EU tariffs on food imports and exports after the Brexit deal;
- a multi-stakeholder debate about the trade-offs of developing more domestic production and its balances with imports; and
- an appreciation and scenario analysis about the potential regulatory 'lag' and trade dissonance post 2019, given revised arrangements may not stabilise for another decade.

5. Aligning British aspirations for their food with the Food Brexit negotiations

Even though the negotiations will mostly be conducted behind closed doors, we think the gap between what the UK consuming public thinks about and wants from its food, and the realities of the negotiations, could be significant.

The British public's approach to a limited range of considerations about food is regularly monitored by the food industry for commercial reasons – to track changes in aspirations, tastes and willingness to pay. Publically-available surveys are rarer but have the advantage of not being driven solely by corporate agendas. The FSA has run a bi-annual tracker survey since it was created in 2000, mostly focussed on safety issues but with a strand exploring wider considerations. When the survey began, food prices were the top issue of concern for around 60% of respondents, but this began to decline from the 7th survey (or 'Wave'). This reflected realities, because food price inflation had been low at that time – though it is now rising again. By Wave 13 conducted in November 2016 – just before food inflation began rising again –the proportion of respondents concerned about food prices had declined to 42%, with concern about sugar ranked higher, having risen from 39% at wave 1 to 52% in 2016.[92] Country of origin labels have been a consistent concern - 46% at Wave 1 to 54% at Wave 13 (2016).The FSA reported finding food waste a matter of increasing concern (49% in 2016), and hormones, steroids and antibiotics also rising (27% in 2016).

Overall, the 2016 FSA tracker reports 86% of their sample of consumers were aware of concerns about safety, evenly divided over whether shops or eating-out mattered most to them. They had general concerns over sugar (53%), food waste (49%) and animal welfare (44%).[92] Of the 76% of people aware of the FSA, 87% thought the FSA was responsible for ensuring food is safe to eat, and 66% indicated that they trusted it.

Health, price and safety have emerged as top priorities consistently in both commercial and public surveys, but issues of national and local sourcing feature too. A Defra study in 2011 looked at the interplay of a range of attitudes, and found that health was the top priority for 82% of people, with access to British seasonal produce important for 72%.[93] More than two thirds of people considered buying British produce important and almost three quarters said they liked to buy British fruit and vegetables. This is not surprising given that everywhere globally, diet and food are important in cultural identity.

A 2015 a British Social Attitudes Survey of 3,223 representative adults confirmed the importance of health to UK citizens, with 83% of respondents saying it mattered a great deal or quite a lot to them that foods are healthy.[24][94] 69% thought it mattered that food has not gone through a lot of processing. And 58% said it was important that farmers were paid fair prices. 47% said it mattered a great deal for food to be low cost (with another 50% saying it matters somewhat or not a lot). 35% also said it mattered a great deal or quite a lot for food to be locally grown. Studies like this show that the British public has nuanced attitudes. People do not simply judge food in terms of its price, convenience and safety – important though those may be.

The consumer organisation *Which?* conducted a citizens' jury study in 2013-14, which explored with groups of people across the UK what they wanted from food. Specialists presented and were questioned by the juries about a wide range of food matters. Given the opportunity to be informed by experts, the consumers strongly concluded that they ought to have better access to more detailed and more accurate information about how food is grown, processed and sourced.[21] This remains very important. Consumers can be aware of links between longer-term as well as more immediate issues. For example, a 2017 study by ComRes for the UK Research Councils' Global Food Security Programme found the British public becoming more aware of the impending threat of climatic shock.[95]

As far as we know, there have been no public surveys published exploring British attitudes to food with regard to Brexit. More general studies such as the 'Brexit Diaries' conducted by *BritainThinks* suggest the country is still divided on the lines that emerged in 2016, namely by social class, region, income but also by ideology particularly over migration and sovereignty.[96]

How might these consumer attitudes be adopted or applied in the Food Brexit negotiations?

So far, and indeed partly as a result of a lack of political and policy leadership, there are competing and somewhat fragmented narratives about the way forward for food policy during and after Brexit. These contrary framings of the food challenge ahead are about wider conceptions of what is meant by 'progress'. Translating the different perspectives into food helps illustrates what the narratives mean in practice. They go beyond Brexit *per se*. But these arguments matter in Food Brexit because they suggest how contested the policy terrain

will be. They create a cacophony about the future of food. Some of the broad aspirations which have already been voiced for British Food from the Brexit process include:

o   support for British producers, without giving farmers blank cheques;
o   a desire to maintain a food culture which offers considerable choice;
o   a 'cheap food' policy which keeps food prices down and/or affordable;
o   an 'efficient' food system, although it is not clear whether this is defined in terms of return on capital, price-earnings (p/e) ratios, or in terms of ecological efficiency, carbon reduction or biodiversity enhancement;
o   a decent food system with good wages and conditions;
o   high quality nutrition and steady food supply to improve national public health, and reduce diet-related ill-health; and
o   safe food with trusted systems of inspection and quality control.

Whichever of these aspirations gain political ascendancy will determine whether the others are even considered. Hence, our deep worry – shared by many in the food system – that current thinking from HM Government is vague and contradictory. It is not clear what precisely the British want; and that is because their political leaders have been deliberately vague. Both main political parties are split, or have a spectrum of positions. Few have even begun to think these through for food. We detect various and differing political economies mooted for Brexit Food Britain. Here are some examples of thinking we have been given when talking with actors across the food system since the Referendum.

People have said they want:
o   a British food system which is still linked to neighbouring European countries;
o   a return to some kind of Commonwealth preference;
o   an unfettered Trans-Atlanticism (particularly with a Trump USA);
o   a more globalist 'free trade' food nation;
o   a new low-impact food system aiming for sustainable and equitable development in the UK and in our trading partners;
o   business-as-usual;
o   soft Brexit;
o   hard Brexit;
o   to stay in the customs union;
o   to stay in both the single market and the customs union;
o   to leave everything as it is except to stop migrant food labour;
o   to keep having access to migrant food labour above all else;
o   and so on.

The Brussels-London negotiations will have implications for which of these narratives will dominate but the negotiations do not start with a blank-sheet of paper. The EU has 60 years of policy and systems development, and its 27 are currently waiting for some clarity from the UK. It is the UK which lacks clarity. And that is not unrelated to the peculiarities of the UK food system.

We see some features as particularly important for the public to note during the negotiations:

- o the UK's food system has a heavy reliance upon a relative small number of giant food companies. The UK has thousands of small firms but, like the EU, has a highly concentrated, top-heavy food system.[79]
- o The UK has switched from Commonwealth preferences to European sourcing of food since the 1970s; this will not easily be reversed. Many of the carry-overs such as the Lomé Convention giving special treatment to former developing country colonies (e.g. for bananas) has already ended,[97] with fairtrade supply chains taking up the political chalice to champion ethical consumption. We note the furore over reports in June that the food retailer with biggest historic commitment to fairtrade, J Sainsbury, was considering dropping use of the certification scheme of the EU-based Fairtrade International (FLO),[98] and replacing it with its own commercial 'fairtrade'.[99] [i] Tesco also announced it will replace its fairtrade coffee and replace it with own-label rainforest certified coffee.[100]
- o Food regulations and standards have entirely Europeanised since entry in 1973; but some flexibility within national borders remains.
- o The UK has a costly and socially-divided and divisive diet-related population-health problem (not just in obesity) which is already a burden to its healthcare system – which is not subject to EU policy constraint.
- o The UK imports about a third of its food from within the EU; if these supply routes are subject to 22% tariffs, there will be serious price consequences.
- o The UK has heavy reliance on EU countries for its agricultural and food labour force. Food imports are paid for in £ sterling but often contracted in US $ and EU € which means food (in)security is sensitive to currency values and volatility.
- o Food prices will probably be the most immediate political concern while Food Brexit negotiations are being conducted.
- o Price and availability will most quickly be affected by political uncertainties and price volatilities in the global food economy.
- o The negotiations are being conducted when state structures, skills and capacities have been weakened by departmental cuts in line with austerity policies; Defra, for instance, is urgently trying to recruit government officials for the negotiations.

Enhanced food security in the UK will require:

- academics and independent bodies to help identify the changing social considerations which shape and are shaped by public attitudes on British food.
- Defra and Ministers to meet consumers', public health, consumer and environmental representatives at least as frequently as they currently meet food industry representatives, and that they respond to their concerns.
- Health and consumer concerns to be at the centre of the negotiations;
- Redoubled efforts by civil society to build public support for food which is fairly produced.

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[i] We checked with J Sainsbury and were told the press coverage misunderstands what is mooted. We suspect more will emerge in due course.
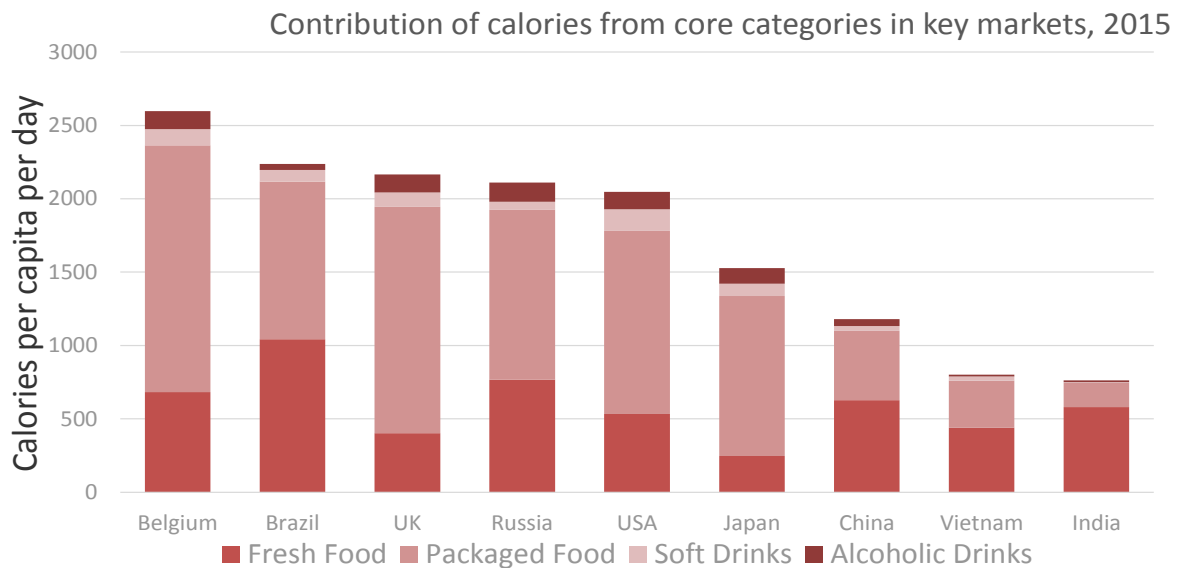
6. Food quality and standards

As the first country to industrialise, the UK was arguably the first systematically to sever its populations' connections to farming and the land. The emergence of a mass urbanised consumer class has spread globally, and one sees it emerging rapidly in developing countries today. Part of that process has involved cultural transitions, not just a shift in nutrition, a shift towards consuming pre-processed (i.e. factory made) food products rather than cooking from raw ingredients at home. In the 19th century, early developments in packaging technology accelerated opportunities for branding and marketing factory food. Slicing and packaging a loaf of bread, for example, created the opportunity to brand the loaf. The rise of packaged food products was initially seen as a consumer boon but more recently has come under scrutiny for health impacts. Mass marketing of highly-processed food products has frequently been in products high in fat, sugar and salt. These products are widely available and provide cheap calories. They are typically made from mass-produced agricultural commodities. They can incorporate cheap ingredients and can rely on cosmetic food additives and chemical processing aids in their production. The UK used to be known for its unexciting food; today that is less the case. One can paint a picture of a vibrant food culture emerging from the post-industrial society. In fact, the UK has both: highly processed mass foods, alongside some foods and dietary choices more associated with international tastes.

Euromonitor International's data, gathered in 2015, is a reminder how extensive is UK consumption of highly processed foods as a proportion of the total UK diet.[101] Its 'Passport Nutrition' tracks consumption in 56 countries. Figure 3 provides illustrative summaries for nine countries, and reveals that UK consumers eat four times more processed foods than fresh food. This may be good for the food manufacturing sector but it is not good for nutritional public health. The UK has a major obesity and diabetes problem. The NHS is under strain from diet-related ill-health. This matters for Food Brexit. The UK ought to be building a good-food culture based on good ingredients and a food system which contributes to sound, healthy, sustainable diets.

This is what the public health agenda for Food Brexit should be: high standards and a chance to recalibrate food culture. The Government has shown some resolve in this area by retaining its commitment to the sugar tax. This is important but should not be left on its own as the answer to all diet-related public health problems. Dietary fats are at least as important for obesity as sugars. Public funds are tight, and the processed food industry is a powerful lobby. But we ought to be modelling what a 'good health' UK food system would look like, applying insights derived at the global and regional levels.[102] [103] [104] There are likely to be enormous implications for land use, off-farm processing, and consumer culture.

Fig 3. Contribution of calories from fresh/processed foods, soft drinks & alcohol, in nine countries, 2015

Contribution of calories from core categories in key markets, 2015

Calories per capita per day

Legend: ■ Fresh Food ■ Packaged Food ■ Soft Drinks ■ Alcoholic Drinks

Countries (x-axis): Belgium, Brazil, UK, Russia, USA, Japan, China, Vietnam, India

Source: Euromonitor International, Passport Nutrition 2017[j]

One of the UK public health successes of recent years has been the salt reduction programme, an important attempt to rein back ultra-processing. The Scientific Advisory Committee on Nutrition (SACN) reported in 2003 that there were good scientific grounds for a considerable reduction from the UK's high average salt intake of over 9 grams (gm) per adult per day to what a predecessor Committee on Medical Aspects of Food Policy (COMA) had recommended in 1994 should be nearer to 6 gms per adult per day.[105] [106] 17,000 British lives would be saved if the target of 6 gm was met, it estimated.[107] With SACN's backing, the Food Standards Agency championed a major initiative – including 'Sid the Slug' public awareness – to reduce salt levels. [108] [109] With a judicious mix of evidence, leadership, marketing, and cross-Whitehall co-ordination, enough food industry firms came on-board to have a beneficial effect on public health. From 2005, there was a measurable reduction of average UK salt-consumption from 9.5g to 8.1 g per person per day.[110] It was estimated that the fall in blood pressure due to this salt reduction led to a saving of approximately 18,000 stroke and heart attack events a year, 9000 of which would have been fatal.[111] The salt reduction strategy also generated concomitant cost savings.[112] Despite this evidence and success, the salt-reduction strategy was - in the words of its intellectual architects - "de-railed" by the Government's Responsibility Deal.[113] The 'Responsibility Deal' was heavily criticised by public health policy specialists,[114] [115] [116] and it certainly represented a shift of strategy away from direct intervention and reframing of consumption to a softer approach towards the food industry, of just expecting firms to act responsibly.

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[j] Our thanks to Euromonitor for permission to use this data

One lesson from such experience is how important it will be for a post Food Brexit UK to have independent health bodies, championing, monitoring and reporting on food standards. In practice however, the Food Standards Agency (FSA) in England and Wales has suffered severe cuts to its budgets and staffing levels, although Scotland has wisely chosen to retain a more integrated and active role for its agency, which is called Food Standards Scotland. The FSA's chief operating officer estimated that from the start of the horsemeat scandal (2013) to the end of 2015/16, the FSA's annual budget would be cut by £22m.[117] Many in the food industries did not want this. The purpose of creating the FSA was for the British public to have a well-resourced body, independent of both ministerial and commercial pressures, which the public could trust to act on its behalf and to <u>raise</u> standards of food quality and safety.[118] The UK enters Food Brexit with the FSA seriously weakened, just when it will be needed even more because Food Brexit means leaving the many EU institutions (see the section below) that help to protect food safety and public health. There are good grounds not simply for maintaining food standards in and after Food Brexit but for raising them. Who is championing this inside Whitehall? So far, no-one is doing so.

While representatives of the powerful food industry meet regularly with Defra officials and ministers, there is no comparable regular engagement with representatives of public health, consumer or environmental interest groups, and no evidence that considerations of public and environmental health are being taken into account by those planning for, and with responsibility negotiating over, Brexit .

It is also important that if a 'hard Brexit' is the result (leaving the Single Market and the Customs Union) there will be significant delays before any new trading and regulatory relationships are agreed with countries inside and/or outside the EU. This will create long periods of uncertainty for the UK food system as a whole, which could drive up costs and prices, and could create increased opportunities for food fraud. Non-EU trade is likely to be both smaller in scale than has been the case with the EU, and could well be characterised by lower food quality and safety standards.

There are some trade lobbyists who anticipate more food imports from the USA. UK consumers are currently protected by being within the world's largest trade bloc. As explained above, some US food safety standards are significantly lower than those applying in the EU. Moreover President Trump's administration is actively endeavouring to weaken the US's food safety regime, with the enthusiastic collaboration of members of the US Congress, and powerful sections of the US food industry.[k] If the UK authorities negotiate a trade deal with the USA, post-Brexit, that opens the UK mark up for US beef, milk, dairy products and GM foods, for which labelling will not be required, they might well encounter considerable resistance and opposition from British consumers and citizens.

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[k] See, for example, the commentaries from the Center for Science in the Public Interest, Washington DC: https://cspinet.org/news

Enhanced food security in the UK will require:

- renewed efforts by public health and food bodies such as the Food Standards Agency, Public Health England and the Department of Health to incentivise reformulation of food products to make them safer and healthier;
- leadership within the Cabinet, Cabinet Office, Ministries responsible for Business (currently Business, Innovation and Skills), trade (currently International Trade) and Food (currently Defra) to give priority to public health within national industry strategy, and to constrain the production and marketing of 'ultra-processed' foods; i.e. less emphasis on unnecessary 'value-adding' and more on 'values-adding'.
- a more prominent role for the Food Standards Agency in assuring the public that Food Brexit is not an excuse for lowered food standards and instead is an opportunity to raise them;
- a stronger emphasis upon health within food education, training and skills development; and
- a more effective promotion of the consumption and production of fresh food products.

7. Replacing the CAP is part of the picture

In the UK public mind, the EU is associated above all with the Common Agricultural Policy (CAP). The EU contributes around £3bn a year in subsidies to UK farmers. The CAP has been repeatedly revised, changing subsidies, expanding remit, and for the last quarter century has funded projects and outcomes designed to improve environmental protection. The CAP and the European Commission's Directorate General for Agriculture (DG Agri) have generally avoided addressing public health concerns, with Member States insisting that health remain the competence of individual nation states. Under those conditions, the CAP has remained a 'productionist' policy – focussed on ensuring sufficiency and stability of supplies, low-cost commodities for the off-farm processing, to supply retailers and food service operators that 'feed' consumers. Food safety, particularly micro-biological safety, is the one health-related issue to modify some features of the CAP. Food safety crises, for example over BSE ('mad cow disease'), provoked a reframing of EU food policy between 1996 and 2000.[43] That came just after a major restructuring of subsidies designed to reduce over-production (the MacSharry reforms).[l] [34]

So far, the national UK discussions about the various options for, and effects of, Brexit on food and agriculture policy have been discussed as if they were separate and independent variables, rather than interconnected. While the UK Brexit debates focussed on topics such as controlling migration, less attention was given to (a) whether this would undermine UK interests, especially in the farming and food sectors and (b) whether it was possible to pick and choose from which of the EU four freedoms (**of movement of goods, capital, services and people)** the UK might abandon. In reality, they are linked. For example, abandoning the free movement of labour, which is lawfully required in the EU, will result in shortages of workers

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[l] For those unfamiliar with the history of CAP, an official account is at: https://ec.europa.eu/agriculture/cap-overview_en

in both farming and food processing. A new seasonal workers scheme is likely to be essential if UK food production is not to be sharply reduced. It's that or rapid automation (unlikely by April 2019) or radical changes in the UK citizenry willingness to accept seasonal and physically-demanding work.

The UK food system has become increasingly reliant upon international trade (especially with the EU) for both food imports and exports. Over 70% of all the UK's major food commodities that are exported (such as cereals, sugar, beef and veal, lamb) go to the EU. Even more significant in terms of volume are the imports from the EU to the UK. The UK imports over 83% of its fresh vegetables and 40% of fresh fruits. The UK is currently only 18% self-sufficient in fresh fruit and vegetables.[13]

Leaving aside, momentarily, the importance of increasing the consumption of fruits and vegetables by much of the UK population, the Brexit process is happening at a particularly vulnerable time for the UK food system - a time when it has become excessively dependent upon imports, while some of its population face worrying levels of 'food poverty', i.e. poverty which affects food consumption, [119] and while its productive base is declining, in terms of the number of farms and of small independent businesses, upon which it has historically relied.

The CAP, meanwhile, continues to be modified, slowly but inexorably. The UK will be leaving when there is a growing chorus of voices calling for the CAP to be transformed into a Common Sustainable Food Policy.[120] Hard-line Brexiters judge this to be of little interest; we disagree. CAP will remain the key framework for our neighbours' food system. If the UK negotiates a 'soft' Brexit, the EU's reformed agricultural policies will be very important for the UK. Even if there is a 'hard' Food Brexit, and the UK meets high tariffs and switches, for example, to a combination of US, African, Latin American and Eastern Mediterranean sourcing, EU agriculture will continue to influence, and maybe even dominate, global food markets. It is in UK's interest to retain a working understanding of its dynamics and implications, and active collaboration.

For the many UK civil society organisations who have for years pressed for CAP reform to be based on more environmental, healthy and socially just goals – and who have seen some gains in that respect – the prospect of leaving the CAP has some allure. But caution is needed. Already, the opportunity for a harsher farm regime to emerge is coming clear, with farming subsidy cuts anticipated post 2022 and powerful agrichemical farmers anticipating relaxation of tough EU pesticide controls (e.g. on glyphosate).[121] This is not what progressive civil society has sought for a reformed food system.[122] There is a real danger of a purely market-based approach drowning the voices for better food systems, and putting cheapness before other values.

Enhanced food security in the UK will require:
- British stakeholders to continue fully to participate in European discussion about CAP reform.
- European progressive food forces to retain links with the UK.

- the UK to develop a more integrated and comprehensive food policy, whether in or out of the EU;
- the UK to stop viewing agriculture as the totality of food policy;
- concerted effort by civil society to prevent CAP being replaced by a harsher and worse farm policy.

8. Fisheries: reclaiming control – can we catch the fish?

The Common Fisheries Policy (CFP) has had a lower profile than its big brother the CAP, [123] but the sector is important symbolically within Food Brexit less for its economic role – now representing less than £1 bn out of the £201 bn British consumers spend on food – than for its role in the UK's national identity. Fishing and the CFP raise important questions for Food Brexit politics. Is the EU to blame for the sorry state of UK fishing? And will leaving the EU make things better? A former Secretary of State is convinced this is nothing but a win-win for a hard Brexit.[124]

If there has been one food issue which will be important in a Food Brexit, and which tugged at the British public's political emotions, and on which most academic analyses agree that EU policy has been poor, it is the Common Fisheries Policy (CFP). Even supporters of the UK remaining in the EU acknowledge that the CFP has been a 'disaster'.[125] Although a close policy cousin of the more notorious CAP, the CFP lacked the same public demonic profile until comparatively recently.

The narrative that emerged was simple: the UK is an island nation; it used to have a formidable fishing fleet; the EU supposedly 'stops' British fisherfolk fishing in what are seen as 'our' waters; this is an insult to a land whose national dish (at times) has been fish and chips. More soberly, the case against the CFP has been that it has overseen a steady erosion of fish stocks, has responded with a heavy-handed policy, which has supposedly been driven by science, and which has restricted fishing by quotas and a draconian boat-destruction policy to reduce fishing capacity, which has reduced fishing employment to a bare 10,000.[13] The CFP has thus decimated jobs and businesses, and led to heightened rather than reduced emotions. This is a powerful critique, which was capitalised in one of the most visually arresting moments of the Referendum when a fishing boat sailed up the Thames to Parliament urging a release from the EU and CFP.

In fact, for the last decade, almost everyone agrees that the CFP needed changing, including the EU.[126][127] Europe's fish stocks have been under threat from a mix of over-fishing, pollution, blunt policy interventions, and poor political leadership. This picture is alas also a global one.[128][129] But in a cumbersome manner, the CFP policy-makers realised that their role is to do more than simply destroy boats or set quotas based on scientific estimates. The entire marine ecosystem is in stress due to land-based actions, ranging from pollution to the building of massive new trawlers which can vacuum seafood from the seas.[130] With UK fish consumption actually dropping, despite nutritional advice to eat two portions a week (one of which should be oily), eco-minded chefs could be forgiven for thinking the answer lay in cooking and selling ethically and 'sustainably' sourced fish such as that approved by the

Marine Stewardship Council (MSC).[131] A label alone cannot resolve – nor was it expected to - the fundamental crisis of a policy which failed to resolve the mismatch of marine ecosystem and biodiversity conservation, employment, nutrition and commerce. We note with interest that other EU member states are adopting a more systemic approach. The Netherlands, for instance, in 2015-16 reduced its two portions of fish advice to one, on environmental grounds, as part of its gradual but firm injection of sustainability criteria into its food policy.[132-135] The Food Standards Agency, meanwhile, maintains the advice for two but recommends choosing sustainably sourced fish.

Some of the fundamental faults with the CFP became evident only a few years ago when a British-led campaign exposed the stupidity of the 'discards' policy – throwing away unapproved fish (of the wrong size or species) as 'waste'.[136] That a celebrity chef had to ratchet up political attention is a sign of a lack of policy attention. The public could barely believe that perfectly good fish were being thrown away. This at a time of ever increasing reliance on food banks due to persistent poverty in this rich country. The Fish Fight campaign injected a new level of public engagement in reforming or reclaiming what is supposed to be a 'common' food policy. No wonder even solid Remainers accept the CFP is a mess.

 So, how might a Food Brexit affect the CFP? Today the UK remains an island, of course, but its fishing fleet is a shadow of its former state. Its current registry of fishing vessels of over 10 metres length is 1,234.[137] And, while fish and chips are high in national affections, dietary preferences have been broadened by other favourite dishes. For British children, if anything, the favourite is pizza; and for adults 'curry'. Tastes have been internationalised and broadened, not least by Europeanisation.

Fish is the only issue on which a Secretary of State has spoken before or since the Referendum and Election with any details. Broad promises to protect the environment have been made,[138] and there are surely private discussions over policy development, but in public there are too few signals, let alone details. On July 3 2017, Michael Gove, appointed Secretary of State for Environment, Fisheries and Food after the June 8 election, surprised all when, out of the blue, he announced in a BBC TV interview that he would withdraw the UK from the 1964 London Fisheries Convention.[139]

This is a remarkable policy foray, with considerable Brexit consequences. There were no background Defra papers that we or others know of, other than a powerful denunciation of the CFP from his former Cabinet colleague Owen Paterson, a confirmed Brexiter, published by a Brexit campaign group.[124] This had signalled some of what Mr Gove said. It suggests that he wants to take a hardline position in subsequent bi-lateral fishing negotiations. He went further by stating that he wants to reassert control over our territorial waters up to the 200 nautical miles. This is however allowed currently under the CFP. It is hard to know if he was bluffing or just poorly-informed.

The London Fisheries Convention, it should be noted, was signed in 1964, well before the UK even began formally to negotiate to join the Common Market.[140] The British hosted it, hence the name, urging it to replace the 1888 North Seas Convention, which allowed nations to fish within 3 miles of each other's coasts. But Mr Gove justified tearing up the London Fisheries Convention as being able to "…dramatically increase the amount of fish that we catch".   This

suggests that he expects fish populations spontaneously to recover, the fishing fleet to be rebuilt and for the British to eat or trade this bonanza. If so, this is interesting and needs close scrutiny, and is highly unlikely because the UK, in his scenario, will be leaving the CFP's negotiation with 27 countries, and the London Convention of 6, but will have to negotiate at the World Trade Organisation with 160+ nations! Unsurprisingly, no clues are given as to how he intends to make this a matter of 'taking back control'.

Moreover, it is important to ask whether the expansion the Secretary of State expects will be judged on ecological grounds or simply be a shift from EU member states fishing fleets (including our own) harvesting seafood to solely British boats?

For those with long memories, this has echoes of what turned into the UK-Iceland Cod Wars, when Iceland asserted its rights, leading to naval skirmishes on the High Seas from the 1950s to 1970s. There are differences, though. Britain's Southern and Western neighbours are much closer than 200 miles away. This could be politically fissile. And in the case of Northern Ireland, the UK is actually land-attached to an EU member state.

The EU record on fish has not been entirely calamitous. It was the EU that persuaded the UK – conscious of being the 'dirty man of Europe' – to stop pumping its sewage into the seas in the 1990s.[m] It was a decision negotiated at the EU, which demanded that UK water companies reduce pesticide and other pollutant residues in water outflows into rivers, which meant that UK farm practices had to improve to meet maximum residue limits (MRLs).[n] It is the [o]EU that nurtured the EU's Blue Flag scheme into existence in the late 1980s, which embarrassed UK local authorities to clean up beaches for swimmers.

It is clear however that, whether in or out of the EU, the UK needs a more joined-up fisheries policy. Although the EU has been crude in its management of the CFP, from the perspective of the long-term public interest, the question is whether the UK is more likely to have a sensible and sustainable fisheries policy outside the EU than in. Mr Paterson and Mr Gove think so. We are more doubtful, not least, since tearing up agreements with our neighbours is a strange way to initiate anything other than a hostile, hard and counter-productive outcome. We expect that the UK would have to strengthen its naval fisheries-protection service and be prepared for hostile actions against boats from other countries that currently are entitled to fish in the North Sea, Irish Sea and the Atlantic.   The UK fishing fleet would inevitably lose its current authorisation to fish in the waters of all the other EU Member States and of the signatories to the London Convention. That said, both the economic and ecological state of fisheries within and beyond UK territorial waters leaves much to be desired.

The mismatch of public health nutrition advice with fish stocks and supplies is a prime example of public policy failure. We see this as an issue sorely in need of good, sound critical analysis from diverse disciplines. With Defra in such a weak state, there is a real danger that simply exiting the EU could take the UK out of the fish frying pan into the increasingly depleted seas.

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[m] see, for example, http://hansard.millbanksystems.com/commons/1990/jan/25/waste-dumping-north-sea
[n] see, for example, http://www.europarl.europa.eu/RegData/bibliotheque/briefing/2012/120291/LDM_BRI%282012%29120291_REV1_EN.pdf
[o] see, for example, http://ec.europa.eu/ourcoast/download.cfm?fileID=1018

Enhanced UK food security with regard to fish and fisheries will require:

- a de-industrialisation of fishing which harvest seafood from the marine environment and replacing it with one that prioritises sustaining fish stocks
- a comprehensive review of how policy can address nutritional needs currently supposed to be met from seafood;
- a review of how fisheries policy can be better integrated with ecosystems and human health policy;
- evidence-based negotiation with neighbours and the EU over fish stock management;
- accelerated reform of the Common Fisheries Policy, whether the UK is in or out.

9. Facing the Food Labour crisis: wages, conditions, robots and seasonal employment

Since the 1846 Repeal of the Corn Laws, the UK's default food policy has been to pursue 'cheap food'. Historically, this has been underpinned by three considerations: cheap labour, imports and an urban focus. It was no accident that British trades unionism began in the agricultural sector.[141][142] Rural life, labour and employment security had a low value for governments in Victorian Britain.[83] Recent studies suggest that the UK food system is highly dependent on relatively cheap labour still, whether viewed across the whole food system, in agriculture alone or in food manufacturing. The UK needs to invest in skills and training to combat a cycle of what the authors of one study called "...the entrenched use of low-skill, low paid workers on casual, temporary or seasonal contracts."[143] Devlin and colleagues concluded in 2014 (pre-Brexit) that most UK food jobs were "...in the least well-paid jobs, with salaries of less than half the UK average".[144] And in 2017 Heasman and Morley conclude that UK food manufacturing faces a double challenge of (a) a potential labour shortage if the supply of EU migrants dries up after Brexit, and (b) the need to recruit up to 140,000 new workers by 2024.[145]

According to national statistics, food workers in the UK generally receive low pay compared to the average rates of pay, with food service work paid less the lowest, then retail, then farmwork and food manufacturing the most, but even that is below the national average.[144] Food service may have its star chefs but much work is low paid. Across the sector, although there can be a high level of professionalism and hi-tech infrastructure (e.g. in the logistics sector), food work is still characterised by much temporary, seasonal and part-time work. The contemporary 'gig' and 'zero hours' economy extend that history.

Take horticulture. As any gardener knows, managing raspberries or strawberries requires much work in planting, weeding, truss-training, picking, and storing. Commercially, highly sophisticated operations have emerged, using and needing casual workers for about 20-25 weeks in the year. Even moving strawberries from the field to growing them in substrates under cover, which allows greater scale and intensity, does not obviate the need for labour. Growing strawberries in soil requires about 160 hours of labour to harvest a tonne. If grown in substrate, this reduces to 120 hours per tonne. For raspberries, 350 hours a tonne are required.[146]. According to Defra, the UK soft fruit sector as it stands requires about 27,000

full-time-equivalent (fte) workers annually. The prospect of ending EU free flow of labour strikes horror into many a farm and food enterprise. What will replace it?

Table 2 Number of employees in the UK food system, by food sector, 2015

Food Sector	Numbers employed	Enterprises	Other features
Fishing & Aquaculture	10,000	3,841	6,383 vessels
Agricultural supplies	13,000	607	
Farmers & primary producers	476,000	214,000 farm holdings	
Agricultural wholesalers	39,000	4,072	
Food and drink supply industry (processing machinery, etc)	6,000	425	
Food and drink manufacturing	422,000	8,597	10,050 sites
Food and drink wholesalers	225,000	15,722	
Food and drink retailers	1,157,000	54,106	86,239 sites
Caterers	1,658,000	116,463	448,958 sites
TOTAL	4,006,000	203,446	

source: Defra, 2016, pg 98[13]

Today, farm work is a small part of the total food labour force. Table 2 gives the government's most recent estimates of the numbers of workers in several sub-sectors of the UK's food system, updated in mid 2016. Defra and the ONS calculate that in aggregate the agri-food sector employs about 3.86 million employees, but the Defra summary we give here raises that a little. Food accounts for about 14% of the UK national labour force. Food service is now far the largest sector, with half a million more workers than retailing.

Defra's 2015 farm labour review (part of the EU's harmonised data collection system) found English farming in an interesting state:[147]
o   a third of farm-holders were aged over 65;
o   only 16% of farm-holders were female;
o   50% of male holders worked full time on the holding compared to only 25% of female farm-holders;
o   38% of the smallest farms were run by holders over 65years old; this decreased to 23% on the largest farms;
o   the farm labour force was evenly split between family and non-family and male and female;
o   40% of family workers worked on the smallest farms, but this number decreased to 25% on the largest farms; and
o   horticulture has the greatest proportion of female non-family workers of any farm sector at just under 40% of total non-family labour force.

Many analysts now consider the farm sector to be operating under a Brexit sword of Damocles, as far as its labour-force is concerned. Three recent studies make the point. The Royal Association of British Dairy Farming's 2017 labour survey showed the rapid emergence of a shortfall of skill dairy workers.[148] Although the British see farming as honourable, they are

not interested in work in the dairy sector.[p] The RABDF is sober about how to plug the post-Brexit labour shortfall in dairy farming.

The two other studies were of horticulture labour. The BBC surveyed members of British Leafy Salad Association and British Summer Fruits (representing 90% of their respective sectors) if they had enough seasonal workers for the start of the main picking season. With three quarters of those surveyed responding, the survey found:
o   32% said they weren't sure;
o   18% said they had slightly fewer than they needed;
o   Just over 3% reported having many fewer than required;
o   42% said they had just enough;
o   1% said they had more than enough;
o   Meanwhile, 78% of respondents said recruitment had been more difficult than last year, with 20% saying it had been the hardest for years.

The third study was by agricultural consultants Andersons for British Summer Fruits.[149] It explored the impact of Brexit on the labour market for one of the UK's only horticultural success sectors. UK soft fruit production has grown by 131%, mainly due to home-grown strawberries sales, and the industry turns over £1.2 billion. Brexit now threatens this. This is almost entirely dependent on migrant labour for seasonal growing and picking which the British will not undertake.[150] Andersons predict: price rises for strawberries and raspberries of 35%-50%; a drop in UK consumption; less production in the UK; and increased imports.

One response to these prevailing labour difficulties could be to shift towards a generally higher wage and higher skills food system.[151] This is what the Netherlands' horticultural industry, for example, has accomplished, but it took a government-led strategy to achieve that goal. The UK government has been singularly reluctant to adopt such a strategy.

Given the importance of UK food supply, the silence from Government on the labour question is astonishing. That said, the state of the agricultural workforce receives a more explicit discussion in Scotland and Wales than in England, which is not unconnected with the lack of regional administrations or food structures in England. The last Labour Government was edging towards something quite promising with its Regional Development Agencies, but they were abolished by the Coalition Government, and replaced by weak, under-funded Local Economic Partnerships, which have been unable to deliver effective regional development strategies, and flounder without the clear policy framework this paper calls for.

The fate of UK Colleges of Agriculture illustrates the long-term reluctance of the state to face food reality with regard to food labour. Many Colleges were established in Victorian times to provide a suitably-trained workforce. Wye College in Kent, for example, became a specialist agriculture college in 1894; it affiliated to the University of London in 1898, but was abolished in 2009 by Imperial College, which sold off the land and the buildings. This met with government indifference, although a robust campaign was run by alumni to save the College

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[p] see a sub-set of data:
https://static1.squarespace.com/static/55115f04e4b0f4baa9ed963c/t/594bb4ce17bffc5292a0cc5a/1498133711724/Survey+headlines+FINAL.pdf

and buildings. Just when the UK ought to be creating a new generation of food colleges, it has been closing down and asset stripping its legacy.

There is history here. One reason why many in the British rural working class moved in the early 19th century and relocated to the newly-industrialising towns was because of the poor rural conditions of work and life; towns promised greater freedom and security. British farms operated on low wages and had poor conditions of employment. Rural housing continued to be a problem, especially for those in so-called 'tied' accommodation. There were lengthy struggles over housing in rural areas. Despite low rates of pay, mechanisation and automation displaced many farm workers. But the drift off the land happened. In the 20th century, rural housing became a lifestyle choice for affluent classes, supported by the increasing affordability of private cars.

Many analysts know that the food labour force ought to be central to debate about Food Brexit. If British shoppers want 'British' fresh produce, from where is the workforce to come? Currently, horticulture is particularly vulnerable, as it relies on casual and seasonal rather than permanent staff in the fields, especially at harvest time. A recent study by Andersons for the horticulture industry estimated that it will require about 90,000 workers in 2020.[146] The Government is in a cleft stick, caught between pressure to cut migration and reliance on just that. Its response is weak. The horticulture industry has already been affected by the closure of the Seasonal Agricultural Workers Scheme (SAWS), a controlled system for seasonal and casual labour which operated from 1948 to 2013. There is a powerful case for the reinstatement of a scheme like the SAWS. Some commentators point to how the farm industry has increased the use of casual and seasonal workers from 5% in 1980 to 14% in 2014.[152] Others argue that, in a full economy, new labour is essential. In 2015 an estimated 16.7% of the UK's national employment was foreign-born, up from 7.2% in 1993.[153] Simultaneously, it should be remembered, that large numbers of UK citizens are gainfully employed in other EU Member States. In the context of current debates about Brexit and migration, few distinguish between the free movement of labour from EU Member States and immigration from outside the EU. Non-EU immigration has recently been slightly higher than EU migration.

Around 600,000 people came to the UK in 2015 but about 300,000 emigrated, so net migration was about a third of a million. People working in the food sector are part of this, which is why the prospect of loss of access to EU migrant labour is one of the UK food industry's greatest concerns.[154] The government has long been made aware of this, but has failed to indicate if it will address the problem, let alone how.[155] [156] [157] Most economic assessments stress the advantages of migration to the UK's GDP. On balance and in aggregate, migrants pay more in taxes than they utilise in public services, in other words the UK capitalises on other countries' investments in people and skills.[157] A 2015 Government report also argued that migration was beneficial because of the ways in which it helped to spread ideas, wealth, innovation and commerce.[158]

Certainly, the UK food sector would be struggling to function without foreign-born staff. According to the Resolution Foundation, UK food manufacturing is one of the sectors with the highest levels of reliance on non-UK EU workers, at just under 30%, compared to the accommodation and hotel sector at just under 20%, and to an all-industry average of around

8%.[159] Using figures from the Government's Labour Force Survey, Oxford University's Migration Observatory calculated that the food preparation and hospitality labour force account for about 30% of all migrant workers in the UK, while 7% of 'elementary' agriculture' relies on recent migrant workers.[153] Migrant labour tends to be more mobile than domestic citizens. London has by far the greatest presence of migrant labour in the UK; and it may be no coincidence that Londoners voted overwhelmingly to remain in the EU, and according to recent polling, are particularly fearful about the consequences of the UK leaving the EU.[160]

Our point here is that the composition of the workforce in agriculture, horticulture and downstream food-processing distribution and food service needs to be very carefully considered in debates about Brexit and the future of food and farming in the UK post-Brexit. So far, there has been no clarity from the Government concerning plans for migration or the future composition, and sourcing of the food workforce.   One option might be a so-called 'points-based system'. Could a SAWS-type arrangement be reintroduced? Might that only be for agriculture or might it also be extended to food manufacturing, which is even more reliant on migrant workers? And if for them, why not for food service? Another option might be a (tougher) work permit system. It is just possible that the government might seek to stop all inward migration altogether. If so, a vast range of food tasks would cease: they include for example fish filleting in Scotland, abattoir workers in England, and restaurant workers in metropolitan areas. Is this really in the national interest?

One strand of Brexit thinking sees an opportunity to improve domestic productivity, by refining labour processes, and introducing a new wave of mechanisation and automation. There are some powerful economic arguments for this. Smaller robotic tractors may be cheaper than larger 'high productivity' tractors. They may not need expensive skilled drivers, as one proponent has argued.[161] Drones might spray crops without compacting the soil as tractors do, but correspondingly their deployment might increase spray-drift. Robots may not require hi-tech experts to operate them; the goal is to enable farmers to operate them via smart phones, but maintenance will require new skill sets. Innovations in agricultural technology are attractive to some interests, but are unlikely to solve the urgent labour-force crisis that Food Brexit could provoke.

Some robotic milking parlours are already in operation, but they are only commercially viable with large dairy herds, and raise questions about animal welfare as well as issues for workforce planning.[162] Further automation is also possible in food processing, such as sandwich factories and plans producing routinized recipes. But, as the Dutch government and industry appreciated, this could provide an opportunity to improve skills and conditions for the remaining workers.[163] Some UK firms are already exploring the use of robotic machinery guided by Geographical Information Systems for use on arable crops (ironically often co-funded by EU grants).[164] These are very capital-intensive, and could accelerate rural depopulation. It is far from clear how far consumers would be willing to accept unremitting automation. Coffee shops, for example, could replace baristas by making consumers press a button to 'make' their cappuccinos, but the ethos and conviviality of the coffee shop would go. The human touch is not just symbolic. It is what people want amidst brand homogeneity.

The modern 'gig' economy is an important extension of the part-time and casualization processes that have transformed the UK's food system. In the 1980s, UK food retailing was

substantially re-configured by edge-of-town and out-of-town supermarkets and hypermarkets, obliging shoppers to utilise their own cars and to spend their time travelling to and from stores. The numbers of small local food stores declined sharply, as giant food retailers gained increased market share.[165] In the 2010s, the market has altered again, with the rise of discounters, and changes in shopping patterns. There has been a rise of the home-based consumer as producer, or 'prosumer'.[166] Shoppers now use computers or mobile phones to place food orders with a home-delivery service, and to have them delivered by bicycle (e.g. Deliveroo), by van (click and collect retailing) or by taxi (e.g. Uber or Amazon Fresh – now buying Whole Foods). This so-called 'gig economy' is rightly much discussed. It has been criticised for extending a reliance on zero-hours contracts, and for companies denying that they even employ the workers, who nominally deemed to be 'self-employed'. The UK had an estimated 1 million workers on zero hour contracts already by 2013.[167] The TUC estimates that 3.2 million UK workers (1 in 10) were in what it terms 'precarious work' across the economy as a whole in late 2016.[168] According to the ONS, the Accommodation and Food sectors have the highest number of zero-hours staff of any sector, at nearly 200,000.[169] Negative publicity and legal cases have questioned this casualization, but it is particularly sensitive for the food sector as the Food Brexit clock ticks, because influential neoliberal commentators argue in favour of abandoning the employee-protection provisions in EU Directives, such as those on Working Time and on workers' rights. The gig economy is currently being reviewed for the Government-by a team chaired by Matthew Taylor, chief executive of the Royal Society of Arts.[170]

We have already learned that companies spearheading this new casualization are being careful to change the language they use with their staff. In April 2017, the *Financial Times* exposed, for example, how Deliveroo had a six page briefing on conditions in which for example, workers receive 'invoices' not pay, they 'log in' rather than start their shifts, they are 'self-employed' couriers rather than 'employees', they wear 'branded' clothing not uniforms, they can face 'termination' but not redundancy or 'the sack'. This is carefully worded and highly significant.[171] Those nominally 'self-employed' are not covered by minimum wage legislation or entitled to sick pay or holiday pay. In the Brexit negotiations, a close eye should be kept on such issues.

Enhanced food security in the UK will require:
- better financial returns to primary producers in agriculture, horticulture and fisheries;
- a clear commitment to raise food wages above the so-called 'living wage' to attract new recruits and to raise the status of food work;
- encouragement for more women to enter the farm sector on decent conditions;
- a Parliamentary inquiry into the potential impacts of a new round of automation and productivity deals in the UK food sectors, paying particular attention to each stage in the food chain, from farming to final consumption;
- clarity and social justice on the issue of migrant labour (from EU and non-EU countries) in the food sector;
- support and protection for current non-UK food labour force in the face of racism and anti-migrant hostility;
- a longer-term rethink of national policy on food labour which does not start with a fantasy about automation being a technical fix but seeks people-centred technical advance.

10.   The subsidy question: who gets the money from food?

Currently some 38% of the EU's budget is allocated to farm subsidies of one kind or another. This has consistently remained a contentious issue. Agricultural subsidies are criticised by mainstream economists for distorting markets.[172] The type of subsidy system adopted by the EU has been criticised over the years for favouring large and farmers over small and poorer ones,[173] as well as for having a range of damaging social and environmental effects.[174] It is not surprising, then, that within the small amount of debate about Food Brexit, much focus has been on agricultural subsidies.

Some argue for the complete abolition of all agricultural subsidies in the EU and for the UK after Brexit. Neoliberals favour this because subsidies offend economic theory,[1] and the Left because they are a transfer from the poor to the rich. Others hope for their retention, but only if ecosystems services are funded, i.e. if they deliver public goods.[175] Europhiles point out that the drift in CAP reform has been towards giving subsidies for social and environmental benefits rather than direct production support.[176] Others argue that environmental gains should be built into how all farming operates.

One of the few ministerial hints about the future of food policy since the Referendum came from H M Treasury, indicating that Pillar 1 support (area-based production subsidies) will not continue in the UK post-Brexit, but Pillar 2 (environmental and social 'public goods') may be continued in some form. Continuity of the *status quo* was promised until 2020,[177] and extended to 2022 by the Conservative Manifesto for the June 8 2017 election. Famers who voted for Brexit look likely to lose some 80% of their subsidies (Pillar 1) in a few years.

This may be popular with some urban interests and certainly with neoliberals, but it raises concerns about the impact on primary food production. Farm Subsidies provide about half farm incomes. They were created across the Western world post World War 2 to cushion farming - whether livestock, arable farming or horticulture – from unavoidable variability of climate and weather and volatile markets. No two successive years are identical, and the output of farms inevitably fluctuates from season to season and year to year. Aggregate quantities of primary agricultural commodities, i.e. supplies of food, are therefore fluctuating variables that cannot yet reliably be forecast. While the supply of foodstuffs is volatile, the demand, at least for staple foods, is notoriously inelastic. If the price of potatoes halves, few in the UK at any rate, would eat twice as many potatoes. Moreover if their price doubles, most people would cut back on other expenditures and continue to eat similar quantities of spuds. The interactions between volatility of supplies and inelasticity on the demand-side are important because they entail that modest changes to the supply of staple foods can provoke sharp volatilities in food prices.

This situation has been exacerbated by the fall of sterling which has already meant UK food prices have begun to rise,[178] as new contracts are replaced by previous ones. They are usually for 6 or 12 months ahead, which is why there has been a delayed effect since the Referendum in June 2017.

The tensions between the determinants of supply and the patterns of demand are further complicated by how farmers make choices as to which commodities they will plant. This is one of those cases where the incentives influencing the choices made by individual producers can be in tension with the interests of all the producers, understood as a collective group. If there aren't subsidies to sustain the viability of British farms when food prices are volatile then many farms will go out of business, urban food prices will rise, and food security for low income consumers will be affected. It is hard to see any alternatives to production subsidies as a means to stabilise supplies and prices. The only alternative might be for food manufacturers and retailers to guarantee forward prices to their suppliers, but they have never indicated any willingness to do so, but has been possible during wartime circumstances when the state takes new powers.[179] [180] [181]

If UK agricultural markets are radically deregulated, and all production subsidies ended, they will once again become chronically prone to volatilities of supplies and prices. That pivotal fact has been forgotten by many who have become accustomed to the relative stability in prices and supplies that European and British consumers experienced since the 1960s. UK and EC/EU subsidies were introduced after the hunger of the Second World War and the austerity and food rationing of the late 1940 and early 1950s. Those policy regimes initially gave UK and European farmers financial incentives to increase their production, but they also served substantially to diminish the frequency with which shortages triggered abrupt price rises. The subsidies ensured stabilised food markets and food prices that have been remarkably stable when compared to the period from the 1830s to 1939.

One of the main reasons why direct subsidies on agricultural production became so unpopular, especially for a new generation of British and US think-tanks,[182] is because the particular type of mechanisms that were used in the EC/EU agricultural regimes were too indiscriminate; they gave farmers money per unit produced, however much they produced, irrespective of whether there was a market demand for their outputs.[29] [183] The result was the notorious CAP mountains of beef, butter and milk powder and 'lakes' of wine and olive oil.

It is important to appreciate, however, that production subsidies do not necessarily generate large surpluses. In particular, the subsidy mechanism adopted in the UK, prior to the UK's accession to the EEC in 1973, was called a 'deficit payments' system. If market prices fell below officially set targets, the British government paid farmers the difference between the target price and the market price, but only of those supplies for which buyers could be found. If and when the UK leaves the EU, the British government could reintroduce a deficit-payments-type system, which would help stabilise prices and supplies, thereby contributing to Food Security in the UK, but without generating unsustainable surpluses. This is however likely to be opposed by HM Treasury.

There are also good reasons for retaining some Pillar 1-type subsidies in the UK post-Brexit in order to retain capacity and enhance food security, but this does not mean Brexit isn't an opportunity to review and rethink the production subsidy system. There remains, in our view, an overwhelming case for agricultural policy to be radically re-directed. Currently the allocation of resources is perversely contrary to food security in both economic and nutritional terms. Currently how Pillar 1 subsidies are allocated in the UK farmers means that

those who least need to be subsidised are receiving most, while those in greatest need are receiving least. That perversity should be reversed.

Furthermore, the highest levels of subsidies currently support the production of those foods that are already being dangerously over-consumed, especially animal protein, fats, oils and sugars. From a nutritional perspective, the UK needs to consume significantly more fruits and vegetables, but perversely horticulture qualifies for few subsidies. There is a powerful case for reversing those patterns. Farmers should receive incentives to produce those foods that are, from a nutritional perspective, currently under-consumed and disincentives to produce foods that are already being over-consumed. That reversal of priorities should be pursued incrementally, and linked to active policy measures designed to shift dietary habits and to enable patterns of consumption to become significantly healthier.

Enhanced food security in the UK will require:
- Clear statements from HM Government, the Wales Assembly Government, Scottish Government and Northern Ireland Assembly about the future of subsidies for farm, food and fisheries in the long term (beyond 2019 and 2022);
- consideration of a new subsidy regime such as the UK's former 'deficit payments system' which reduced the volatility of supplies and prices without generating unsustainable surpluses;
- a shift of subsidies from foods with an undesirable nutrition impact, and consideration as to whether to subsidise more nutritionally desirable horticultural produced; and
- Ensure that any agricultural subsidies go to those most in need rather than those who need them least.

11.   Deciding the overall framework: what are the options?

The outcome of Food Brexit is uncertain. Political analysts are outlining various options offered nuanced variations of (a) no deal (agreed or by default); divorce (amicable or poisonous); tariff agreement (more or less); customs union only; trading agreements (beyond the EEA, Swiss, Norway type or full single market access); and more.[184] Since the June 2017 election, some even consider the possibilities of a U-turn, under which the full implications of Brexit are spelled out to the British public and it is subject to another election or referendum. That is why in this report, we keep mindful that remaining in the EU is a possibility. This outcome of the negotiations is uncertain. This is partly because its final shape will be formed by the negotiations, relationships and internal dynamics themselves; partly because the post-EU UK food system will develop its own dynamics, as the UK public becomes aware of its food insecurity; and most immediately because of political uncertainties due to the hung Parliament elected on June 8. Mrs May, as Prime Minister, reiterated her mantra that 'Brexit means Brexit' and strongly backed a 'hard' Brexit, exiting from the Single Market and Customs Union as well as the EU itself. This was a strange position for someone who had supported Remain. The politics since June 9 mean it is best to revert to open options. In this section, we review some of the 'back to square one' options from which a UK negotiation might emerge.

Option 1 is that the UK retains some kind of <u>agreed membership of the Single Market and/or Customs Union</u>. Signals concerning this possibility from Conservative politicians and HM Government vary. This is probably the option that many British people and firms would prefer, provided that the UK could regain some control over immigration. However, the freedom of movement of labour is one of the four freedoms within the EU *acquis communautaire*. This was a key part of the European social democratic compromise. Businesses wanted the free movement of their goods, services and capital, in exchange for which they had to agree to the free movement of people. If HM Government makes migration a key high priority in its negotiation, this option is unlikely.

Option 2 has been, until June 8, the most likely, that the <u>UK severs relations with the EU and has to become a global food trader</u>. The neoliberal wing of the Conservative Party (and within HM Government) seeks this outcome. They envisage an unfettered, lean, free-trading nation. But little thought has been given to what this would mean for UK food security. In effect, it means the World Trade Organisation sets the baseline on food standards. The FAO-WHO Codex Alimentarius Commission rules, which are significantly weaker than EU standards, would replace EU rules for foods sold to non-EU WTO Member States. Tariffs would kick in – estimated by the British Retail Consortium to be a hefty 22%.[3] These would raise food prices. And this option would pose serious problems for UK producers wanting to export to EU Member States, as all products offered for sale in the EU must conform to EU Member States standards and compete on price with continental European producers. The alternative would be for all UK producers to lose their ability to export into EU Member States. This would be a catastrophe for many UK farms.

Option 3 is that the UK and EU somehow negotiate an <u>entirely new type of bespoke EU-UK food deal</u>, a 'special agriculture and food relationship'. This is unlikely but cannot be discounted. The powerful UK food industry – which was and remains clear that its interests lie in continued access to EU markets – is one among other economic sectors which argue for a special deal. The City of London and the financial sector is another, although finance has more internal divisions than is commonly recognised; hedge funds, for example, seem to adopt a more free-booting approach than banks or insurance companies.

Option 4 is that political events evolve unexpectedly, and there is a v*olte-face*, and <u>UK citizens and government decide to change their minds once they see what leaving the EU would actually entail</u>. This is unlikely but not impossible. European Member States' elections and internal politics could radically alter the conditions. A protectionist France, or changed German Government, a Greek €uro default, a major regional or global military conflict, could put Brexit on hold, and public opinion could swing sufficiently for a new referendum to change the decision. "Events, dear boy, events", replied Tory Prime Minister Harold Macmillan to a journalist when ask what made the task of governing most difficult.

We agree with the verdict given in the Financial Times that the UK currently is 'sleepwalking towards a chaotic Brexit'. In other words, the new Government has not so far shown leadership or agreement to go for any of the Options above. This is the worst of all worlds, and could end with a default exit, i.e. Option 2, or a vacillation, or some political exigency, as yet to emerge.

Enhanced food security in the UK will require:
- explicit clarity of purpose in the negotiations;
- a clear debate about the implications of whatever 'deal' is struck;
- the emergence of a strong voice for delaying a Food Brexit, whether staying in the EU or renegotiating terms (if possible); and
- an opportunity for the realities of Food Brexit to be informed to the people who were not informed about the implications of Brexit for their food supply.

12.   Keeping a close eye on our EU neighbours: it takes (at least) two to tango

"Good fences make good neighbours", wrote the US farmer-poet Robert Frost in his 1914 poem 'Mending Wall'.[q] In the poem, those words were actually voiced by Frost's neighbour, not by himself. Frost questions why the fence (or wall) is needed. If both neighbours were farmers of cows which wander, yes, the wall or fence may be needed but, if they are cultivating fruit or forests, why would a wall or fence be needed? Frost mulls the circumstances, mindful that both neighbours repair their boundary fences annually, bonding as neighbours in the process. Something of this *pas-de-(no fewer than)-deux* is now needed by the UK and EU. But the atmosphere in the year since the Referendum has not been good, not helped here by too much empty rhetoric.

The UK is one of 28 member states. It is negotiating as one with 27. This is not a relationship of equals – something the more simplistic Brexiters see as an opportunity for a spurious Dunkirk spirit. This is dangerous and potentially self-defeating. The UK is already in danger of being frozen out of long-standing political and economic arrangements such as Euratom (nuclear power), the European Space Agency, the European Food Safety Agency, and many technical networks such as mobile phones, research and air traffic control. We consider these institutional arrangements later (Section 13 below).

An aspect of the Food Brexit negotiations, which needs to be kept in mind, is the EU's internal dynamics. Few in the UK yet take seriously enough the important EU White Paper on *The Future of Europe*, published on March 1, 2017. This was a major statement of change within the EU, attempting to 'rally its troops' at a difficult time.[185] That White Paper gave five scenarii, using transport and mobility as an illustration (which could be interpreted as a coded reference to migration). It is important to appreciate the prevailing political and strategic fluidity emerging within the EU. It posited several options for an EU future:

Scenario 1: *Carrying On* – Here the EU27 focus on delivering a reform agenda in the spirit of the President Juncker's Commission's *New Start for Europe* 2014 outline, and the position agreed by the remaining 27 EU Member States at Bratislava in September 2016.[186] This envisaged that by 2025 EU citizens could drive automated and connected cars across internal borders, but could encounter some remaining legal and technical obstacles. This would be an

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[q] https://www.poets.org/poetsorg/poem/mending-wall

EU where Europeans could mostly travel across borders without having to stop for checks. Reinforced security controls could however mean having to arrive at airports and train stations for security checks well in advance of their departure.

Scenario 2: *Nothing but the Single Market*– In this, the EU27 is gradually re-centred on the single market, as the 27 Member States have not been able to find common ground on an increasing number of policy areas. By 2025 this could mean crossing borders for business or tourism becomes difficult due to regular checks at internal borders. Finding a job abroad would then become harder and the transfer of pension rights between countries would not be guaranteed. Those falling ill outside their home country could face expensive medical bills. Europeans are currently reluctant to use connected cars due to the absence of EU-wide rules and technical standards.

Scenario 3: *Those Who Want More Do More* – The EU27 proceeds as today but allows some of its willing Member States to do more together in specific areas such as defence, internal security or on social matters. One or several 'coalitions of the willing' could emerge. By 2025 this could mean that - for example - 15 Member States might set up a police and magistrates corps to tackle cross-border criminal activities. Security information would be rapidly exchanged as national databases become fully interconnected. It also means connected cars are used widely in 12 Member States which have agreed to harmonise their liability rules and technical standards.

Scenario 4: *Doing Less More Efficiently* – here the EU27 would focus on delivering more and faster in selected policy areas – perhaps food? - while doing less where it is perceived not to have an added value or where agreements cannot be reached. Attention and limited resources would be focused on selected policy areas. By 2025 this could mean a European Telecoms Authority has the power to allocate radio frequencies for cross-border communication services, such as the ones used by connected cars. It could also protect the rights of mobile and Internet users wherever they are in the EU. It might also mean the creation a new European Counter-Terrorism Agency helping to deter and prevent serious attacks through a systematic tracking and flagging of suspects.

Scenario 5: *Doing Much More Together* – Member States might decide to pool more of their sovereignty and share more power, resources and decision-making across the board. Decisions could then be agreed more rapidly at the European level and promptly enforced. By 2025 this could mean Europeans who want to complain about a proposed EU-funded wind turbine project in their local area could not reach the responsible authority as they are told to contact the competent European authorities.

Enhanced food security in the UK will require:
- an enhanced Foreign Office which, together with Defra and devolved administrations, monitors policy development in the EU; this could open the door for re-joining or for new trade agreements on sharing food standards, for example;
- improved leadership on food matters within the UK state – sorely lacking so far – to ensure that UK food actors are not impaired by whichever Option emerges on top; and

- a strong voice from civil society and academia for UK society to drop its anti-EU rhetoric and to listen to the majority of young people who overwhelmingly voted to remain in the EU and see the advantages of internationalism.

13.   Internal UK tensions: the food fragmentation in Britain?

For those focussed on Food Brexit – whether 'Remainers' or 'Brexiters' - the development of food and farming policies and reforms in Brussels will be of paramount importance in the negotiations. Pressure for a more coherent and integrated food policy must not be lost by the policy chaos apparent at present. A sensible vision for the next round of CAP reform has been tabled by the European Economic and Social Committee,[187] and another in response to the UN's Sustainable Development Goals, commenting on the case for a more comprehensive food policy, is due in December 2017.[r]

Even more relevant to the Food Brexit negotiations, probably, is the issue of UK Devolution, particularly with regard to food trade between Northern Ireland and the Republic of Ireland, and trade from Ireland through Holyhead on Anglesey as the passage of Irish food exports to other EU Member States. Food criss-crosses the Irish/Northern Ireland border many times in the creation of numerous processed food products. This is surfacing as a major concern in the negotiations, but it is ironical that it has been most strongly voiced by the EU27 rather that the British Government. It was apparent to the UK food industry immediately (e.g. strongly expressed in the FDF conference November 1, 2016). The prospect of food rotting in transit waiting at borders is not impossible.[188] [189] The Irish Government has calculated that a closed border, or one with a jurisdiction not in the Single Market or Customs Union would be very harmful to both sides. It is acutely aware of the harmful impact closed borders could have not just for trade but also for the Irish peace process. [153]

Scotland's EU commitments have already shaken HM Government's complacency about Brexit. Scottish enthusiasm for the EU is unlikely to diminish any time soon, particular given the resurgence of Scottish Tory MPs on June 8/9. Even though the decline of oil revenues exposes the underlying reliance of the Scottish economy on links to the rest of the UK, the political will of Scotland to retain EU membership is now a factor in the Brexit/Bremain policy picture. At worst, it threatens the continuation of the UK as an entity. We note, however, that Scotland does not feed itself any more than England, Wales or Northern Ireland do.

Whereas both Scotland and Northern Ireland voted to remain in the EU, Wales did not. Though its major food export commodity – lamb – is heavily dependent on the EU, most Welsh farmers (like English counterparts) voted to leave. Wales has one of the most powerful legal commitments to sustainability in the UK. The 2015 Well-being of Future Generations (Wales) Act passed by the Wales Assembly Government came into force in 2016.[190] This requires all policies and agencies of government to consider and deliver improved conditions

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[r] European Economic & Social Committee opinion (Rapporteur: Peter Schmidt).

for future generations. This surely must apply to food security in Wales notwithstanding the Food Brexit process.

This raises some pertinent questions for the Welsh Government with regard to how it adheres to the principles of the Future Generations Act at the same time as negotiating arrangements with Westminster during and after Brexit. Our view is that many of the key principles of that Act are highly relevant for a new UK-wide food framework and Act(s) as outlined and proposed in detail here. It should be noted that Wales stands to lose not only farm subsidies but also the largest historical share of EU regional development funding, post Brexit.

A more fundamental question surrounds the continued applicability of the 'Barnett formula' – the somewhat out-dated method of allocating Westminster funds to the devolved authorities. So far, EU funds for agriculture, rural and regional development have been 'ring-fenced', lying outside UK treasury influence and the Barnett formula. These issues will need to be addressed as part of the Food Brexit process. It justifies, we argue, a UK food policy framework that includes special consideration for both the devolved nations and the English regions, based upon a revamped regional policy. This has not surfaced so far but must do so, and soon.

Brexit has also raised a longer-term issue concerning internal devolution in the UK, especially with regard to England's regions and cities. Whereas other European countries created clear devolved structures – e.g. France and Italy in the 1980s – English devolution has been patchy, slow and at different speeds. London has gained more powers under the relatively recent Mayoral system than, say, Bristol or Manchester. Mr Osborne as Chancellor in the Cameron Government talked of a 'northern powerhouse' across the north of England but it seemed to centre on a high speed railway north south rather than east west. The lack of coherence or consistency is problematic. This could be an opportunity for a new city regionalism in the UK, Brexit or no Brexit. There is much to recommend this, not least taking powers over funds from the Centre and South East to the regions. The UK already has a vibrant Sustainable Food Cities movement, which should seize the opportunity of the policy 'chaos' (the Financial Times' word)[191] to become more politically powerful.

These tensions already exist. Their relevance for food is clear, though not widely voiced in public discourse so far. They reinforce the need for a new Politics of Food to inform the UK's Food Brexit negotiating strategy and tactics. Given that currently the UK does not feed itself, but is heavily dependent on imports, many of which come of Continental EU Member States, and flows of food within the UK – UK lorry traffic is a quarter comprised of food wagons - the prevailing régime will be bound to change. It is already chronically unsustainable. This new fluid context – at EU and intra-UK levels – makes the case for creating an open, inclusive and accountable debate about the direction in which we want our agricultural and food system to evolve all the more important. There is a strong case for a more systematic devolution to the regional level but this would only be beneficial if it was clear, equitable and not a continuation of the patchy *ad hoc* city regionalism so far.

Enhanced food security in the UK will require:
- a more inclusive approach to food system reform in the UK;

- serious consideration of a more radical devolution of food powers to cities and regions; and
- a clear commitment to better public engagement on the case for accelerated food sustainability.

14.   Reforming UK Institutions for the 21st Century food system

It took the UK six years to negotiate the its entry before 1973, yet Brexiters' expectations have been aroused such that many assume that leaving the EU can be accomplished in just two years. Some even think it has happened. In fact, the June 2016 was a vote to leave but not a vote on the destination or whether to return, given changed circumstances. Our view is that that a coherent chaos-free Food Brexit is highly unlikely. Government is currently in a mess. State institutions are weak. The public has been poorly informed (and misinformed). Realism may be creeping into some recent Government pronouncements. It is sometimes said that the largest proportion of UK food legislation is EU derived. This has been 'spun' y anti-EU forces that this is EU imposed rather than that the UK co-negotiated them. A 2010 study by the House of Commons' Library suggested that, across all legislation (not just food), 6.8% of primary legislation (Statutes) and 14.1% of secondary legislation (Statutory Instruments) in 1997-2009 were implementing EU legislation.[192] It also estimated that between 15 and 50 % of other administrative regulation (which does not pass through the British parliament) is either directly applicable EU regulation or UK administrative regulation applying EU rules that covers food will need to be replaced.

Be this as it may, the influence of the EU level negotiated food legislation and institutional infrastructure on the UK food system is considerable. The Food Standards Agency states that "[m]uch of the detailed legislation on food standards originates in the European Union".[193] Animal feeds, quality controls, meat inspections, trade rules, hygiene, ingredients, food processes, labelling, and much more have all been negotiated by HM Government with other member states over the last half century. One estimate is that over 4,000 pieces of food regulation and law will need to be addressed if there is Food Brexit.

Few people realise the range of committees, institutions and infrastructure that allows supermarket shelves to be kept full of mostly safe products. When border inspections amongst EU Member States ended, with the creation of the European Single Market in 1992, flows of food were one of the main beneficiaries.[194] A new system of inspection and legal responsibilities at the site of production was established, as was an EC/EU-wide food safety system. The UK has contributed to that system and has also benefitted from it. Does the food industry, and its customers, want to reinstate border inspections? Will trucks be waiting long periods to be processed, and if so would perishable foods survive, or will the trade in perishable food be ended?[189] Costs will undoubtedly rise, but no estimates of the scale of those extra costs have been published. That situation is unacceptable. What UK consumer would buy a car or house (if he/she could afford one) not knowing its cost?

The UK must soon decide whether it will now invest in arrange of institutional governance structures and operations to replace those currently provided by EU institutions such as the

European Food Safety Authority. A Food Research Collaboration paper outlined some of the main food functions in the prevailing *Acquis Communautaire*.[195] Their loss would directly adversely affect UK capacities abruptly and undermine UK Food Security post-Brexit. We strongly recommend all food bodies, NGOs, and businesses to look at the Acquis and see what changes will affect them. Food companies are beginning to be aware of how everything from recipes to packaging will be left in the air unless simply transferred into new British law. And will Wales and Scotland approve this?

To illustrate some of the complexities, Table 3 sets out some major formal (i.e. recognised state) food-related institutions whose functions will be repatriated, reformed or reorganised. These are the major institutions and organisations that currently underpin the security of the UK's food supply. They are the locations where the UK has engaged in the creation of the *Aquis Communitaire,*[196] which is the official EU legal framework that will need to be replaced. A full list was provided in a Food Research Collaboration publication.[195]

Table 4 lists some key EU Agri-Food Policies that will have to be replaced or addressed during and after the Food Brexit process. This gives an overview, sector by sector, from land and sea to consumption.

Table 5 presents some cross-cutting policy issues currently shaped at the EU level which are likely to affect the outcome of Food Brexit. The table views these issues through the various lenses of economics, governance, research and law.

Tables 3, 4 and 5 jointly illustrate the complexities of the tasks now facing the UK Government and its civil service and diplomats, as they have to engage with, transfer and/or replace the edifice prevailing regime. The lists in these tables are not complete or exhaustive. If the Food Brexit process is genuinely to 'take back control' of the UK's food system, this maps some of the main parts of the terrain.

Enhanced food security in the UK will require:

- UK policy-makers, and academics, researchers and civil society to pay more attention to the 'nuts and bolts' of institutional changes that will occur, and their implications;
- UK parliamentarians need to hold HM Government to account on how these changes must not weaken UK food standards and security;
- urgent attention on where the UK will derive its scientific and other advisory strengths from, if there is a loss of co-negotiated infrastructure;
- clear and authoritative costing of the implications of Food Brexit for consumers, particularly for low income consumers;
- clear and authoritative estimates of the cost impact on quality controls with the loss of institutional support from Food Brexit, including clear statements (and costings) for replacement institutions;
- research on skills and scientific capacities in the UK to ensure UK food, post Brexit, meet the UK's legal requirement that food should be 'of the nature, quality and substance demanded' – the basis of UK food law since 1865 – and since entry to the EU.

Table 3. Some major food-related *formal* EU Institutions whose functions must be repatriated or abolished

Institution	Location	Function	UK public relevance
European Parliament [s]	Brussels + Strasbourg	Co-decisions on EU policy; audit function; EP committee system;	Democratically elected; audits Commission; audits national actions;
Council of Ministers [t]	Mostly in Brussels but occasionally in country holding rotating Chair of the Council	Direct MS ministerial meetings	negotiation of decisions
European Commission [u]	Brussels	European civil service	Most demonised by Brexiters but makes policy decisions happen; current 10 priorities include jobs, migration, justice and digital.[v]
DG Agriculture & Rural Development[w]	Brussels	Implementation of farm and rural policies (farm to food, environment to quality)	Overarching framework for food production to consumption
DG Environment [x]	Brussels	Overview of environmental regulation	Key sensitivity with environmental NGOs
DG Health and Food Safety (SANTE)[y]	Brussels	Overview of health and food safety legislation	Consumer protection, health, safety, information, from antimicrobials to contamination
DG Trade [z]	Brussels	Trade and investment	Internal and external trade relations. UK will negotiate with this on Brexit
Food and Veterinary Office (now Health & Food Audits)[aa]	Grange (Ireland)	Animal health overview	Safety, especially meat. big implications for both Food Standards Agency and the Animal & Plant Health Agency[bb]
European Food Safety Authority[cc]	Parma (Italy)	Food safety risk assessments	Safety is key consumer concern since UK sparked food safety

[s]http://www.europarl.europa.eu/portal
[t]https://europa.eu/european-union/about-eu/institutions-bodies/council-eu_en
[u]http://ec.europa.eu/index_en.htm
[v]http://ec.europa.eu/priorities/index_en
[w]http://ec.europa.eu/agriculture/index_en.htm
[x]http://ec.europa.eu/dgs/environment/index_en.htm
[y]http://ec.europa.eu/dgs/health_food-safety/index_en.htm
[z]http://ec.europa.eu/trade/
[aa]http://ec.europa.eu/food/audits_analysis/audit_programmes/index_en.htm
[bb]https://www.gov.uk/government/organisations/animal-and-plant-health-agency
[cc]http://www.efsa.europa.eu/

Institution	Location	Function	UK public relevance
			scandals: eggs BSE (1980s) to horsemeat (2010s)
Joint Research Centre[dd]	Brussels, Geel, Ispra, Karlsruhe, Petten, Seville	EU-owned research institution, located at multiple sites	Powerful equivalent to US CDC and USDA research hubs
European Medicines Agency[ee]	London	Human and veterinary medicines marketing, safety, auditing, and information	Underpinning of human and animal health
Rapid Alert System[ff]	Intergovernmental: EU-28 MS food safety authorities, Commission, EFSA, ESA, Norway, Liechtenstein, Iceland & Switzerland	Rapid Alert System for Food and Feed (RASFF)[gg]	If the UK cuts itself off from EU food, RASFF is not needed. If not, this is essential underpinning.
European Chemicals Agency[hh]	Helsinki, Finland	Chemicals regulation	Co-ordinates scientific infrastructure and harmonised standards, e.g. REACH, the EU system of registration evaluation and authorisation of chemical use, keeping these to protect human and environmental health.
European Environment Agency	Copenhagen	Inform and advise EU environment policy-making	Impacts on environmental standards relating to food production, and waste disposal

[dd] https://ec.europa.eu/jrc/en/about/jrc-in-brief
[ee] http://www.ema.europa.eu/ema/
[ff] http://ec.europa.eu/food/safety/rasff/index_en.htm
[gg] http://ec.europa.eu/food/safety/docs/rasff_timeline.pdf
[hh] https://www.echa.europa.eu/

Table 4. Examples of key EU Agri-Food Policies which must be addressed in Brexit

Sector	Issue	EU element	UK 'partner'	UK options (realistic)
Input industries	Agrichemicals	REACH[ii]; pesticides [jj]	Defra; Environment Agency	Repeal / Reduce/ Retain/ Refine
	Agricultural machinery	European Innovation Partnership for Agricultural Productivity and Sustainability[kk]	Dept for Business, Energy & Industrial Strategy (DfBE&IS)	Domestic production or imports
	Energy	Renewables, greenhouse gas emissions	Dept for Business, Energy & Industrial Strategy (DfBE&IS); Committee on Climate Change;	More or less reliance on renewables? sea-based only or land and sea?
	Water	Water quality controls(rivers to drinking)[ll] eg nitrates, pesticide residues	Defra, Environment Agency	Retain or translate into new UK law?
	Commodity traders	Bound by EU rules and Treaties	Dept for International Trade; HM Treasury; Defra	More international trade agreements?
	Banks & finance & Insurance	Stress tests; co-funding for projects;	HM Treasury DfBE&IS	Uncertain; depends on wider Brexit negotiations
Fisheries / Sea	Fisheries	Common Fisheries Policy	Defra / Wales, Scottish, N Ireland governments	Reclaim fishing rights; go line fishing only?
	Inland seafood (eg trout, mussel and oyster farming)	Water quality control	Defra / Wales, Scottish, N Ireland governments, Environment Agency	Expand industries (employment)
Agriculture	Farmland	Directives on water, biodiversity (not one on soil!)[mm]	Defra / Wales, Scottish, N Ireland governments	Retain or translate into new UK law
	Subsidies	CAP subsidies	HM Treasury	Repeal / Reduce/ Retain/ Refine
	Labour (seasonal + specialist eg dairy managers)	Free movement within MS	Defra and BIS	Renew SAWS; training;

[ii] https://echa.europa.eu/regulations/reach
[jj] http://ec.europa.eu/environment/archives/ppps/pdf/pesticides_en.pdf
[kk] https://ec.europa.eu/eip/agriculture/en/content/EIPAGRIabout
[ll] http://ec.europa.eu/environment/water/index_en.htm
[mm] http://ec.europa.eu/environment/soil/index_en.htm

Sector	Issue	EU element	UK 'partner'	UK options (realistic)
	Agrichemicals	Regulated	Defra	Go organic; LEAF or intensify
	GM	EU legislation 2001ff [nn]	Defra	Repeal / Retain / Refine
	Veterinarians	EU regulated; membership of Food & Veterinary Office	Defra; Dept Health; Public Health England	New audit function needed
	Animal health	EMA, EU Animal Health Law 2015[oo]	Defra; Dept Health; Public Health England	Opportunity to tighten standards?
	Antimicrobials	EMA, EU role currently weak [pp]	Defra; Public Health England	UK could set tougher controls on farm use
Food manufacture	Abattoirs	Meat inspection toughened post BSE / Food Safety White Paper 2000	Meat Hygiene Service of the FSA, Defra; Public Health England	Invest in new localised system? retain or translate inspections into UK law
	Additives	Approval system	FSA and DH	Repeal / Retain / Refine or translate to UK law
	Residues & contaminants	EU sets Maximum Residue Limits	FSA, DH & Defra	Repeal / Retain / Refine or translate to UK law
	Nutrition & health claims	Food Regulations [qq] eg public register	Defra; Public Health England	Repeal / Retain / Refine and relocate in FSA
	Food labelling	Food labelling Regs 2014[rr]	Defra; Public Health England; Dept for Business, Energy & Industrial Strategy	Retain / refine and relocate in FSA
	Rapid Alert System for Food & Feed	EU MS food safety collaboration, eg recalls [ss]	Defra; Public Health England; Dept for Business, Energy & Industrial Strategy	New infrastructure and collaboration agreements?
	Food law enforcement	UK system of Environmental Health Practitioners (EHP) and Trading Standards Officers sits alongside continental use of veterinarians	Defra; Public Health England; Dept for Business, Energy & Industrial Strategy	UK to revert to EHP only?
Logistics	Trucks free flow	Working time Directive[tt][uu]	HM Treasury & DfBE&IS)	Revert to UK only?
	Channel Tunnel / 'Jungle'	Le Touquet agreement 2011[vv]	Home Office	Border police?

[nn]http://ec.europa.eu/food/plant/gmo/legislation/index_en.htm
[oo]http://ec.europa.eu/food/animals/index_en.htm
[pp]http://ec.europa.eu/dgs/health_food-safety/amr/index_en.htm
[qq]http://ec.europa.eu/food/safety/labelling_nutrition/claims/index_en.htm
[rr]http://ec.europa.eu/food/safety/labelling_nutrition/labelling_legislation/index_en.htm
[ss]http://ec.europa.eu/food/safety/rasff/index_en.htm
[tt]http://ec.europa.eu/social/main.jsp?catId=706&langId=en&intPageId=205
[uu]https://www.gov.uk/drivers-hours/overview

Sector	Issue	EU element	UK 'partner'	UK options (realistic)
	migrants			
	Live Animals movement	Regulation on live animal exports[ww]	Animal & Plant Health Agency	Increase powers and budget
	Foods of Animal origin must enter via Ports with Border Inspections [xx]	EU Veterinary checks regulation	Port Health Authorities, and Animal & Plant Health Agency	Maintain Common Veterinary Entry Document (CVED)
	Restrictions on food trades	EU Foods with restrictions [yy]	Public Health England, Port Health Authorities, Defra	Increased powers for border checks
	Nanotechnology	Policy thinking is emerging[zzaaa]	Dept for Business, Energy & Industrial Strategy (DfBE&IS)	Heightened role for Government Office for Science
	Genomics	Policy thinking is emerging mostly on human and livestock genomics [bbb]	Dept for Business, Energy & Industrial Strategy (DfBE&IS)	Health charity consortium with NHS?[ccc]
Food Retail	Competition	EU competition policy (large-scale)[ddd]	DfBE&IS, Compeition & Markets Authority, Grocery Code Adjudicator	Reframing of Competition & Markets Authority [eee]or 'hand-over' to WTO rules
	Supply chain management	Transport infrastructure	Dept of Transport	UK could insist on more sales offer of local foods
	Labelling	EU consumer information (labelling) [fff]	DEFRA	New Unit in FSA or Defra
	Food risk assessment	EU EFRA Food risk toolbox [ggg]	Food Standards Agency, Public Health England and Dept of Health	FSA is currently exploring de-facto contracting out.[197] Possibilities for Public Health England?
Food Service	Labour	Free movement of labour within EU	HM Government (all)	A replacement for Seasonal Agricultural Workers Scheme (SAWS) to licence

[vv]https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/238209/8117.pdf
[ww]http://ec.europa.eu/food/animals/live_animals/index_en.htm
[xx]https://www.food.gov.uk/business-industry/imports/importers/pointofentry
[yy]https://www.food.gov.uk/sites/default/files/foodstuffs-with-current-EU-restrictions.pdf
[zz]http://ec.europa.eu/health/nanotechnology/action_plan/index_en.htm
[aaa]https://echa.europa.eu/regulations/nanomaterials
[bbb]http://ec.europa.eu/health/screening_genetics/genomics/index_en.htm
[ccc]https://www.genomicsengland.co.uk/about-genomics-england/
[ddd]http://ec.europa.eu/competition/
[eee]https://www.gov.uk/government/organisations/competition-and-markets-authority
[fff]http://ec.europa.eu/food/safety/labelling_nutrition/labelling_legislation/index_en.htm
[ggg]https://www.efsa.europa.eu/en/press/news/150109

Sector	Issue	EU element	UK 'partner'	UK options (realistic)
				seasonal workers
	Tourism	Political Framework for Tourism 2010 [hhh]	Defra, Dept for Culture, Media & Sport	Heightened role for Regional Tourism Boards?
	allergy labelling	EU Guidelines on allergy labels [iii]	DEFRA & DH	Food Standards Agency or Dept of Health?
	Café society	Freedom of movement of labour means supply of baristas, chefs, waiters, etc.	Home Office	Home Office?
Consumers	Food supplements	Directives 2004 to 2015 [jjj]	Food Standards Agency and Dept of Health	Dept for Business, Energy & Industrial Strategy (DfBE&IS)?
	Fortification	Directives 2006 to 2014 [kkk]	Public Health England	Public Health England advising Defra?
	Food authenticity and integrity	Geographical indications (PGI, PDO, TSG) system [lll]	National Food Crime Unit in FSA	Adopt EU system or create new food identity system?
	Food advertising and marketing	Freedom of advertising and consumer information	Advertising Standards Authority (an industry body legitimated by Govt)	An opportunity to toughen up UK regulation and take it away from the powerful advertising industry?

[hhh] https://ec.europa.eu/growth/sectors/tourism/policy-overview_en
[iii] http://ec.europa.eu/dgs/health_food-safety/dgs_consultations/food/docs/consult_20150104_allergy-intolerance_guidance.pdf
[jjj] http://ec.europa.eu/food/safety/labelling_nutrition/supplements/index_en.htm
[kkk] http://ec.europa.eu/food/safety/labelling_nutrition/vitamins_minerals/index_en.htm
[lll] http://ec.europa.eu/agriculture/quality/schemes/index_en.htm

Table 5. Some cross-cutting policy issues currently shaped at the EU level which are likely to affect Food Brexit

Sector	Issue	EU element	UK options
Economics	Internal Market	Single Market 1992[mmm]	Pay to stay in; full withdrawal; sector by sector agreements (eg City/Finance 'in'; food 'out'?)
	Harmonisation of services	Free movement of services, public procurement, professional qualifications, industrial property,	Likely to be part of package above
	Economic concentration and market power	Competition on EU basis	Redraw geographical boundaries for markets
	Food Waste	Circular economy action plan 2015 [nnn]	Continue? expand?
Governance	Health and Food Audits	Co-ordinated by DG Health & Food Safety on all MS (formerly known as Food & Veterinary Office) [ooo]	UK sets up its own scheme, but done by which institution?
	Devolved administrations	Committee of the Regions created in 1994;[ppp] collaboration of Mayors etc; Principles of Subsidiarity and Proportionality ratified by Lisbon Treaty	more devolved food powers?
	Parliamentary oversight	Euro Parliament has standing committees; some in parallel to UK committees.[qqq]	Reform UK Parliamentary committees around whichever general Brexit framework emerges (WTO as baseline)
Research	EU research	Eligibility to Horizon 2020, European Research Council and Joint Research Centre;[rrr]	Exclusion from EU research partnerships; or membership
	Big Data	EU Digital Single Market [sss]	UK sees itself as hub for Big Data
	Digital market	Digital Single Market 2016 [ttt]	Maintain EU 'follow the money' principle OR revert to WTO baseline
Legal	Intellectual Property	IPR Directives 2004 and 2016 [uuu]	Include food IPR under wider UK framework[vvv]

[mmm]https://ec.europa.eu/growth/single-market/strategy_en
[nnn]http://ec.europa.eu/environment/circular-economy/index_en.htm
[ooo]http://ec.europa.eu/food/audits_analysis/index_en.htm
[ppp]http://cor.europa.eu/en/Pages/home.aspx
[qqq]http://ec.europa.eu/food/plant/standing_committees/eu_rules/index_en.htm
[rrr]http://ec.europa.eu/info/publications/strategic-plan-2016-2020-joint-research-centre_en
[sss]https://ec.europa.eu/digital-single-market/en/big-data
[ttt]http://ec.europa.eu/growth/sectors/digital-economy/policy_en
[uuu]https://ec.europa.eu/growth/industry/intellectual-property/enforcement_en#follow

Sector	Issue	EU element	UK options
	Rights		
	Public sector contracts	EU policy on tendering	

vvv https://www.herbertsmithfreehills.com/latest-thinking/brexit-intellectual-property

15.   The Brexit negotiations: due process rather than posturing

The British media has a major role (and responsibility) to monitor what happens in the Food Brexit negotiations. Whitehall's agriculture and food in-tray is bursting, given that 40% of EU legislation concerns food and farming. From discussions we have held, there is already some strain in Whitehall. Partly, this has been because Number 10 is keeping such a vice-like grip on the process, which leaves Ministers, let alone their civil servants, unable to do much but consider hypothetical options. The publication of the Prime Minister's Article 50 letter to President Tusk did little to give more detail than was in the January White Paper.[198] And partly, there is already strain in Whitehall because this will be a gargantuan task, when there have been seven years of cuts in staffing. Defra – already one of the smallest Ministries in the entire British Government system – is cutting staff (to meet Treasury goals) while recruiting new staff to deal with Brexit.

There will have to be massive legal restructuring from the EU's present regime, which includes CAP with its subsidies and costs and rigidities, European Food Law, responsibilities currently taken by EFSA and DG-SANTE in setting food standards, the European Parliament's co-responsibility functions; and the role of the Council of Ministers as policy setters. Those are simply the 'big picture' functions. As we outlined in the section above, there are many 'minutiae' functions which have to be accounted for, replaced or dropped. This cannot be done lightly for food. History suggests that any failures in safety, security and quality will lead to massive public outcry and political retribution. Consider the damage to the Conservatives from the BSE and food scandals of the 1980s and 1990s.

The Food Brexit process raises real interconnected vulnerabilities by withdrawing from a highly integrated food marketing and regulatory system at the very time that the UK already faces growing systemic food vulnerabilities. Since at least the 1980s membership of, and participation in, the EU system has empowered market access, enhanced some (but not all) food standards and overall played a major role in keeping household food costs under some sort of control. Withdrawal will mean that those food security systems, and indeed the enhanced public expectations that underlie them, will once again become a major responsibility for the UK state; a responsibility similar to that experienced in the immediate post Second World War period. Whilst the immediate politics of Brexit concentrate inevitably upon the process of withdrawal, and with all the legal and political baggage that will entail, this is only part of the new public food imperative. We see this process as fluid. It could worsen or ameliorate UK food governance.

There are also several features of the Brexit process that need to be recognised which in themselves will create longer-term dangers and vulnerabilities. These include:

o   The specific politics of Brexit mean that it will be far easier and quicker for politicians to withdraw from existing arrangements than to create new, reconstituted and lasting ones; this radically increases the need for our recommendations for a new UK statutory food framework.
o   Ill-thought-out Brexit arrangements could rapidly speed up the collapse of very many small food businesses in the UK, especially farms, as they are subjected to increasing and

uncertain cost-price pressures, a lack of business investment, labour shortages and greater difficulties in gaining access to markets.

o   While withdrawal from the EU might be relatively rapid, the process of building new trading and regulatory arrangements will be far slower.

o   Whilst food system dynamics, and remedies to the problems, outlined here are in many cases 'bi-partisan' in term of UK party politics, they are likely to be embroiled in political debates, which will keep them secondary or indeed marginal to debates about the leading industrial and financial sectors; HM Government's recent 'industrial strategy' barely mentioned food and farming.[71]

o   The increasingly vulnerable macro-fiscal position of the UK government will mean that tax receipts from small businesses (including the hike in business rates) and local services (increases in council taxes for care) etc will likely increase; both to resolve overall decline in government tax revenues; AND the current political pressure within the government to reduce corporation taxes for big internationalised companies as an incentive for them to stay in the UK. The food system, both in terms of its consumers and producers, could consequently be further squeezed both economically and politically, unless specific provisions are established to create a national food plan under a statutory framework (see below).

o   The current food policy community is fragmented and divided. There is an urgent need for a more collaborative policy platform to be created involving all the main players. If the government fails to do this, others will need to take the initiative.

o   Meanwhile the NHS is becoming increasingly bankrupted, not least because of the growth of an aging population suffering a dietary-health epidemic; the critical significance of the food system needs highlighting in these debates.

o   If those steps are not taken, and taken urgently, there will be growing levels of public protest; and a growing frustration by many who voted for Brexit (amongst others), if the process of 'taking back control' is unacceptably slow, and if it results in declining food security.

In coming months, it is essential that public interest groups – NGOs and academics – monitor the processes within Food Brexit. Some variations are already discernible. Table 6 gives an overview of the fluidity of the possibilities and realities of this new Brexit Food Order. Our point here is that the tone and style in the negotiations will itself become part of the politics. The spat over Gibraltar was an early warning of how quickly emotions and media flames can be fanned, and dampened.

Table 6. The range of the Brexit Food & Farm discourse

Debate ranges

Issue	Specifics	From…	…To
Brexit process	Article 50 start	Get the divorce over quickly	This will take years to sort out
	Negotiating Process	Generous and forgiving	Brutal and punishing
	Negotiating Process	Food & Farm régime will change only marginally	Divergent interests in e.g. UK farming (large versus small; livestock versus arable; grains & pulses versus horticulture); food processing selling to domestic &/or export markets; retail & food service) will push the UK negotiators into trying to be 'on everyone's side', and disappointing all constituencies.
	Outcome	Compassionate and tolerant	Fiercely uncompromising
	Outcome	Farm & Food regime will change only marginally, with UK based rules and admin, but conforming closely to EU template	Radical rupture – UK sets farm& food policies entirely independently. Firms exporting to the EU want UK standards fully to meet EU standards. Proponents of a 'cheap food' policy want a 'relaxation' of standards, to cut 'unnecessary' bureaucracy and costs
Brexit Agenda	Mobility of labour	Quotas /points, but with targets chosen to try to ensure that crops get picked by seasonal workers and that the Meat Hygiene Service can continue to employ the substantial majority of the vets it employs in abattoirs from other EU MSs	Tight restrictions on the mobility of non-UK citizens to live & work in the UK, which will seriously disrupt the distribution of domestically produced food, and sharply increase prices.
	Unit of democratic accountability and levels of decision-making in the UK	Concentration of power in the UK government in London	Extensive negotiations with Scotland, Wales as N Ireland (as semi-autonomous jurisdictions) and more English devolution e.g. City Regions
Food system impact	Outcome	Business-as-usual food system. Continuation and maybe even acceleration of dietary polarisation, with the good getting better and the junk getting junkier – with growing income-related health inequalities	Radical de-stabilisation that could transform into a more secure, sustainable, safe and equitable food system; or a considerably less secure one, with accentuated price volatility.
	Farming	Still subsidised similarly to *status quo ante*	No subsidy for farming or radically re-directed subsidies
	Cost of food	Still 'cheap' but becoming increasingly volatile – that is what happens in unregulated agricultural markets	More 'expensive' in the short run, but more equitable (i.e. higher minimum & living wages & benefits) and more stable

		prices.
Food Safety	Remain harmonised with EU standards – little change i.e. continued slow deterioration	Either deregulate and a race to the bottom, or a radically fresh regime that genuinely protects and enhances public health
Food flow / availability	Loss of fresh & processed foods from EU; world market prices more volatile than EU prices.	Rebirth of UK horticulture and primary production;
Consumer contentment	Improved food safety and public health	Triumph for Big Food Businesses
Food and healthcare	NHS and others costs from diet-related ill-health continue to rise	Healthier diets contribute to the prevention of diet-related ill-health

16.   The role of Big Food

The Food Sectors were very quick to get organised about the threat of Food Brexit after the Referendum. It has been distressed at the implications of a Food Brexit. Not without reason, we agree. Food is a highly capitalised sector, and one of the oldest lobbies in UK politics. Sections of the food industry have long political tentacles and form. The most notable of these are perhaps the National Farmers Union (and its equivalent in Scotland, Wales and Ireland), the Food & Drink Federation (a federation of other processed food lobbies), the Provision Trades Federation, the British Retail Consortium, and the British Hospitality Association. There are also many particular industry lobbies, ranging from the Health Food Manufacturers Association, promoting 'natural foods', to the Soil Association, the organic farming body founded in 1946, and the Sustainable Restaurants Association, pioneering sustainable food service was founded in 2010. In the USA, food critics refer to the totality of corporate processed food manufacturers, retailers and caterers as Big Food.[199] [200] In the UK, many of these US foods companies have a powerful market presence (see the names in Table 6 below).

Food manufacturing is the biggest manufacturing sector in the UK. FDF membership accounts for 16% of the total UK manufacturing sector by turnover and employs around 400,000 people in the UK across 6,620 businesses. Its employees number slightly fewer than farming, but whereas farming accounts for £8.5 bn gross value added (GVA) in the UK food supply system, food manufacturing accounts for £26.9 bn GVA. Whether it's the capital tied up in land holdings, or factories, or retail parks, or smaller enterprises such as take-away shops or niche artisanal producers, there is vast wealth in and underpinning food. And these lobbies are well-established. The FDF was founded in 1913. The British Retail Consortium is more recent, created in 1992 from the merger of two older bodies. And the British Hospitality Association has pedigree back to 1907, formed to lobby against the then Liberal Government's proposal to control alcohol.

There are tensions between the various food sectors. Profit margins are fairly low in some food sectors. Supermarkets, to some people's surprise, make lower profits than do manufacturers. Food service can be highly profitable, but business failure is more common. Farming makes low returns but has highly valuable assets. Some of the value of food is now mass psychological. Brand power is reputational.

Market researcher Neilsen estimate of Britain's Biggest Food Brands for 2017 is given in Table 7.[201] This powerful market positioning can disguise some fluidity. All the top six experienced sales drops in 2016, for instance. And apparent single brands can be co-owned. US giant corporation Coca-Cola, the world's biggest food brand, which began commercial life in 1886 also owns over 90% of Innocent, a smoothies manufacturer, begun by two British entrepreneurs in 1999.   Both Tropicana, the fruit juice purveyor, and Walkers crisps, once solely a local Leicester pork pie and crisp manufacturer, are owned by Pepsico, the world's second largest soft drink company.

Table 7. Ranking of Britain's Biggest Grocery Brands, year ending 15 December 2016.

Rank 2017	Brand	Sales £m	Product
1	Coca-Cola	1,104.4	Soft drink
2	Warburtons	628.1	Bread
3	Walkers	579.9	Crisps
4	Cadbury Dairy Milk	523.9	Chocolate
5	Birds Eye	466.2	Frozen food
6	McVitie's	459.3	Biscuits
7	Pepsi	450.8	Soft drink
8	Nescafé	438.1	Coffee
9	Lucozade	433.5	Soft drink
10	Andrex	360.7	Toilet rolls
11	McCain	321.4	Chips
12	Fairy	319.3	Soap powder
13	Kingsmill	299.1	Bread
14	Lurpak	296.1	Butter
15	Cadbury	291.2	Chocolate
16	Hovis	288.5	Bread
17	Red Bull	280.4	Soft drink
18	Cathedral City	258.0	Cheese
19	Robinsons	247.1	Soft drink
20	Felix	244.8	Cat food
21	Arla	240.3	Dairy
22	Galaxy	236.3	Chocolate
23	Tropicana	233.2	Fruit drink
24	Innocent	221.9	Fruit drink
25	Persil	218.1	Soap powder
26	Wrigley Extra	209.0	Chewing gum
27	Heinz Beanz	205.1	Baked beans
28	Pedigree	196.3	Dog food
29	Pringles	190.5	Crisps
30	Heinz Sauces	189.4	Condiments

Source: Neilsen/*The Grocer*[201]

The rise of own-label adds to corporate concentration, with supermarkets essentially competing with other manufacturers. Own-label sales of food and drink are now worth £15bn a year, and have a third of some markets. Table 8 gives a recent picture of some key food categories: ambient, chilled, frozen, canned and dairy foods.

Table 8 Own-label versus Brands, UK market share, year ending Feb 25 2017

Food category	Own-label %	Brands %
Ambient	26.3	73.7
Chilled	54.6	45.4
Frozen	45.5	54.5
Canned	33.4	66.6
Dairy	45.4	54.6

Source: IRI / The Grocer[202]

Our point in this section is to remind UK scientists and civil society that their positions in Food Brexit are not operating in empty policy space. There are existing dynamics within as well as beyond the food supply chain. The prospect of Food Brexit has been and continues to be a source of considerable alarm to the food industries. They rely heavily on migrant labour. Some would be devastated by a 'hard' Brexit. Horticulture, for example, is highly threatened, and surely a downsizing of that sector would not be in the interests of the public health movement which wants more plentiful fruit and vegetables. We see room for strategic alliances over Food Brexit. Some are already emerging, as between some food retailers and environmental NGOs. This could also carry dangers, of dividing civil society 'big picture' consensus, such as was forged by the Square Meal coalition.[122]

The food industries are also affected by international food trends. They have spent decades adapting to and lobbying within the EU. The FDF, for instance, has a powerful overarching EU alliance in the shape of FoodDrinkEurope. Across the EU as a whole, there is considerable concentration. Of the 297,000 EU food manufacturers in 2016, just 3,000 accounted for nearly half of sales.[203] We do not underestimate the power and influence of the UK food industries. They were highly active, for instance, in defending the role of sugar against the soft drink sugar tax. The sugar industry, that said, is totally split over Brexit. The British Sugar Corporation, owned by Associated British Foods (owner of high street cheap fashion retailer Primark) wanted to stay in; it produces sugar beet derived sugar. Tate & Lyle, which produces cane sugar, largely from former colonies, and began to shift to fairtrade in 2008, is delighted about Brexit.[75]

Finally, we note the importance of the vast disparity of pay within the food system. Some of the UK's big food companies feature in the High Pay Centre's catalogue of vast pay to CEOs, while the sector is also characterised by below average pay. On average, the top paid FTSE100 CEOs (not just food) met the average pay of the British for 2017 by January 4. the ratio of top to bottom pay across the UK economy (not just food) is 129:1.[204] This is not a good starting position for a Food Brexit which binds the social fabric of the UK. Progressive food companies ought to be publishing the top to bottom pay ratios, and commit to bringing these down to sane and just levels. Many farmers, meanwhile, having heavily voted for Brexit, are actually financially squeezed and kept afloat by EU subsidies. The latest Defra Total Income from Farming (TIFF) figures estimate total income to farming in 2016 was £3.6bn, i.e.

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[75] Rt Hon David Davis MP, Secretary of State for Exiting the European Union, is a former senior executive and worked for Tate & Lyle for 15 years: https://www.gov.uk/government/people/david-davis

with subsidies of c £3 bn, which means the UK's farmers on average had actual market incomes of just £0.6bn. Over the last four years, TIFF has dropped by £1.9bn.[205]

Enhanced food security in the UK will require:

- close attention to the interests and lobbying power of UK food industries to ensure that a Food Brexit is not an excuse for worsening food standards and quality;
- UK policy-makers, and academics, researchers and civil society to pay more attention to the inequalities within the UK food industries, which have a vast range of pay rates (high for CEOs, low for basic workers), and operate in the UK's highly concentrated food market;
- a radical restructuring of where the money consumers pay for food actually goes, with more attention to raising incomes of primary growers as well as their workers.

Conclusions: putting public interests first in Food Brexit

This paper has summarised some – but by no means all – challenges looming in Food Brexit. It has argued that a core task in Food Brexit is to fashion a future food system for the UK around citizens' interests, public and environmental health, and scientific evidence. If the food system was based on these, it would become something very different.

That is why Food Brexit must be an opportunity for all scientists and civil society to debate with the British public about these real structural challenges. We have to make the case that Food Brexit must not be a deviation from the transformation of the UK food system that the evidence suggests is needed. In this respect, the UK must go down a path shared by others in the developed world. That is why it is short-sighted to think we can do it on our own. Food and ecosystems are cross-border phenomena. We believe the evidence points to the need for a Food Brexit for Sustainable Development. Brexit must not fudge this opportunity for the UK to accelerate into a food system which delivers sustainable diets from sustainable food systems. This great Food Transition should improve food security at home, and in countries from which we import food, by lightening the UK's 'foodprint' on the planet, improving public health, reducing the economic burdens from poor diet, enhancing food employment, and more.

This approach, we suggest, means a rupture from the past. It is <u>not</u> a Brexit for 'cheap' food for the masses at any cost. Food Brexit should not be an excuse solely to focus on price, or on food as a commodity to be simply bought and sold. This is no Repeal of the Corn Laws, trying to cut food costs to enable working people to reduce their food expenditure from over half of their domestic outlays to less than 10% which it is today. Indeed, today's food is so cheap – even though expensive for people on low incomes – that its costs are externalised onto health and the environment, too often with no-one paying the direct costs except lives and ecosystems. We are wary of those who see Food Brexit as a chance to seek even cheaper sources of food – if not from the former Empire, then from where land, labour and capital are cheap and unregulated. The Secretary of State at Defra went on record for saying the UK could be fed more by Africa. This is a disgrace, and exposes how some see Brexit as a chance

to assert a new patronage. Africa should be feeding Africa not the British, who fail to take their own food security seriously. The British public should not be seduced by a new food 'soft imperialism' which further erodes the small farm sector, takes money even further from the land, and pursues unhealthy 'ultra-processed' foods in the name of consumer choice. What consumers actually need is better nutritional, microbiological and toxicological public health standards.

At the time of writing, and for the foreseeable future, it is not possible to predict the outcome of the Food Brexit negotiations, how central or peripheral the agri-food sector will be to those negotiations, or whether consumer interests will triumph. How salient food and agricultural issues will be to key UK ministers is far from clear. Defra is a relatively weak Ministry, yet the strategic importance of food means it ought to have a massive profile. And without an informed debate in the UK on Food Policy, there is – as we have seen here – a clear danger of considerable fragmentation and competition between different vested interests.

Our main concern is that civil society, academics and external voices – whatever their specialisms – should unite around the call for the new **Food Brexit Framework** to locate **food as a central (and cross-departmental) part of UK public policy in progressing and creating a more resilient, robust food system in the UK. This should be one which is capable of delivering sustainable and future generational diets, healthy lifestyles and environments for its increasing and diverse population**.

Current patterns of food consumption and supply in the UK often produce the opposite of this goal, in that they are exacerbating health and social inequalities, and continuing to create more vulnerable environments. Many food businesses are also facing significant vulnerabilities, and this is likely to continue given growing volatilities in markets. It is a system that is stalling on food waste reduction – indeed, reinforcing waste – and not adequately reducing food's role in harming human, physical and ecological systems in both the UK and other countries from which we import food. The Food Brexit task will therefore need to be transformational and restorative; current food systems will need to be transformed to adopt a more circular and sustainable approach that will couple food production and supply systems to enhance public and environmental health.

In order to achieve these goals the UK will need a **statutory framework** which creates and promotes a unique and novel UK approach to **One Nation Food**; one which harnesses the energies of its key players (as indeed outlined in this paper), and one which marries the need for more diverse and greater sustainable self-reliance. It must have a global and internationalist commitment to fairer forms of food trade and the achievement of global targets as embodied in the UN sustainable goals and the Paris COP21 agreements.[37][206]

The new UK statutory framework will need cross-departmental and devolved authority support and commitment and not just be associated with Defra or any other single department. It should include the creation of a Standing Committee or Commission on Food and Agricultural Policy, consisting of MPs, Officials, and an inclusive representation from the civic, community, business and public service and devolved sectors. This body will need to agree action plans and to set sectoral targets and performance measures, as well as to hold

ministers to account. These national targets will be aligned to the internationally-agreed targets of the SDGs, COP 21 and higher performing nutritional and environmental targets. They will cut across and stimulate policy integration between a new and revised agricultural policy (following Brexit), energy, health, education and training, economic development, community regeneration, and creative green and circular procurement policies.

All this will require a re-setting of food governance and institutional processes at the heart of British macro- policy making. Brexit was electorally won on the basis of 'taking back control' and re-establishing British sovereignty and the sanctity of making its own decisions through its Parliament. The food question – as explored in this paper – demonstrates the enormity, the reality, the risks and some real opportunities of this challenge. This will require the empowerment and participation of those actors and bodies across the food system, not just the 'lop-sided' political insiders associated with 'Big Food', Brussels elites or bland Brexiters. We need to see this as an opportunity to create a new and lasting food governance which is internationally sensitive and nationally more sufficient in its ability to meet societal and generational demands for the 21st century.

Enhanced food security in the UK will require:

- a policy commitment to a modern, low-impact, health-oriented UK food system;
- a new statutory framework for UK food, which we term 'One Nation Food';
- this new statutory UK food framework to be linked to the UN Sustainable Development Goals and the 2015 Paris Climate Change agreements (known as COP21);
- new clear targets for UK food security (food supply, quality, health and consumption) which go beyond mere quantity of supply by addressing ecosystems and social systems resilience;
- the creation of a new National Commission on Food and Agricultural Policy to provide oversight and review, and to be a source of advice trusted by the public;
- HM Government to make a clear and explicit commitment to ensuring a sustainable, safe and equitable supply of food, and to set out how that will be achieved, with or without Food Brexit;
- a continued but reconstituted, co-operative set of arrangements with the EU food agencies with regard to regulatory synergies in food trade and standards;
- an approach to food policy which is politically open and socially inclusive.

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