Overproduction in England's Retail Food Chain: A Challenge for the Regulation of Food Waste

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I Andre David Pringle, declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as References.

Abstract

Reducing food waste has increasingly been recognised as a global challenge in achieving a sustainable future. There is a growing consensus in the food waste literature that the overproduction of food driven by economic incentives at the retail level is one of the most significant causes of food waste, both in the supply chain and at household level. Therefore, if we are to move to a more sustainable food system, one of the most pressing challenges for governments and regulators is to intervene in the food production system to reduce the overproduction of food.

This research explores questions of regulatory effectiveness in relation to the two main regulatory regimes that have the potential to reduce food waste caused by overproduction in England: the voluntary Courtauld Commitment and the Grocery Supply Chain Code of Practice, which is policed by the Grocery Code Adjudicator. Empirical fieldwork consisting of interviews with key actors across the supply chain were undertaken to assess the progress being made by these regulatory regimes to reduce food waste in primary production, manufacturing, retail and in households.

This research suggests that the reduction of food waste caused by overproduction presents a very significant regulatory challenge. This research has found that the potential for the Grocery Supply Chain Code of Practice to reduce food waste is constrained by ambiguity in the Code and complexities within the task environment of the Groceries Code Adjudicator. In relation to voluntary food waste prevention, the stated strength of the Courtauld Commitment is that it operates in a pre-competitive space where industry can put aside competition and commercial interest and collaborate to deliver change in the most efficient, effective way. However, this research suggests that when it comes to reducing food waste caused by overproduction, competition and commercial interests create significant barriers to the level of collaboration that is required to implement effective solutions, both within the supply chain and at household level.

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List of Tables

List of Abbreviations

AD	Anaerobic Digestion
BOGOF	Buy one get one free
CC	Competition Commission
CCO	Code Compliance Officer
Defra	Department for Environment, Food and Rural Affairs
FAO	United Nations Food and Agriculture Organisation
FIC	Food Information for Consumers
FPWG	Fresh Produce Working Group
FRWG	Food Redistribution Working Group
FWR	Food Waste Reduction
FSA	Food Standards Agency
GCA	Grocery Code Adjudicator
GSCOP	Grocery Supply Chain Code of Practice
IGD	The Institute of Grocery Distribution
PIC	Policy Issues Council
RPA	Rural Payments Agency
SGD	Sustainable Development Goal
SME	Small and Medium Size Enterprises
TMA	Target-Measure-Act
WCP	Whole Crop Purchasing
WFD	Waste Framework Directive
WRAP	Waste & Resources Action Programme

Introduction

The overarching purpose of this thesis is to understand the challenges involved in regulating food waste caused by the overproduction of food. Preventing waste at the source is the stated priority objective of waste policy and legislation.[1] In England and Wales, regulatory steps have been taken to prevent food waste. The two key regulatory regimes are the Grocery Supply Chain Code of Practice, overseen by the Grocery Code Adjudicator, and the Courtauld Commitment, facilitated by the Waste Resources Action Programme. Both regimes have the potential to reduce the level of overproduction. However, it would be naive to assume that this outcome is easily achievable. Environmental problems are complex. As Fisher points out, regulation 'responding to environmental problems is also responding to social, political and economic troubles.'[2]

The chapters that follow assess the progress being made by these regulatory regimes to reduce food waste in primary production, manufacturing, retail and households. By way of careful qualitative empirical enquiry, this thesis offers an understanding of what factors are driving measures taken by regulatees to reduce food waste and, importantly, whether these measures are likely to impact the overproduction of food. Understanding what factors, pressures and considerations influence how regulatees respond to regulation will highlight some of the key barriers to the effective regulation of food waste caused by retail-driven overproduction. While it is recognised that similar problems of overproduction also occur in other sectors such as food service and hospitality, in order to keep the scope of this thesis manageable these issues will not be addressed within the thesis.

[1] See the Waste Framework Directive, Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste OJEU L150.
[2] Elizabeth Fisher, *Environmental Law: A Very Short Introduction* (Oxford University Press 2017) 3.

Chapter 1 – The Problem of Food Waste

1.1. Introduction

Over the last decade, the crisis of food waste has increasingly been recognised as a global challenge to achieving a sustainable future.[3] A report by the UN Food and Agriculture Organisation (FAO) in 2011 estimated that a third of global food produced for human consumption in 2009 was lost or wasted.[4] Quantifying the extent of global food waste and loss is challenging, as datasets are limited and definitions and methodologies for quantifying food waste vary, especially for waste that occurs on farms.[5] Some commentators have claimed that as much as half of all the food grown is lost.[6]

Although enough food is produced globally to feed the current population, it is estimated that between a third to a half of the world's inhabitants are suffering from malnutrition.[7] Food scarcity contributes to malnutrition in developing countries, while in the developed nations either too much food or too much of the wrong food is leading to nutritional problems in the form of diabetes and obesity.[8] In this context, as Alexander and others note,

> food intake has become a political matter and food waste 'politically fuelled', on the one hand by moral concerns over profligacy and excess in the face of starvation and on the other, by mounting concerns over food security and the resilience of the global food supply chain.[9]

In economic terms the direct cost of food loss and waste globally has been estimated at more than US $750 billion annually (2013).[10] In addition to the social, economic and ethical issues, wasting food has significant environmental impacts. Food production and consumption is estimated to be responsible for between 26–50 per cent of all anthropocentric carbon emissions.[11] If food waste were a country, it would be the third-highest global emitter of

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[3] Ciara Beausang, Clare Hall and Luiza Toma, 'Food Waste and Losses in Primary Production: Qualitative Insights from Horticulture' (2017) 126 Resources, Conservation and Recycling 177, 177.
[4] Jenny Gustavsson and others, 'Global Food Losses and Food Waste: Extent, Causes and Prevention' (FAO Rome, 2011).
[5] Li Xue and others, 'Missing Food, Missing Data? A Critical Review of Global Food Losses and Food Waste Data' (2017) 51 Environmental Science & Technology 6618.
[6] Julian Parfitt, Mark Barthel and Sarah Macnaughton, 'Food Waste within Food Supply Chains: Quantification and Potential for Change to 2050' (2010) 365 Philosophical Transactions of the Royal Society B: Biological Sciences 3065, 3065.
[7] Alan Watkins and Matt Simister, *Our Food Our Future: Eat Better, Waste Less, Share More* (Urbane 2017) 104.
[8] ibid 1–2.
[9] Catherine Alexander, Nicky Gregson and Zsuzsa Gille, 'Food Waste', *The Handbook of Food Research* (Anne Murcott, Warren Belasco and Peter Jackson (eds), Bloomsbury Academic 2013) 471.
[10] Watkins and Simister (n 7) 105.
[11] Tristram Stuart, *Waste: Uncovering the Global Food Scandal* (Penguin Books 2009) 93.

carbon.[12] The emissions from wasted food in the UK alone are estimated to be equal to that from 5.8 million cars.[13] Producing greater quantities of food leads to encroachment on forests, wetlands and other important carbon sinks, reducing the earth's carbon assimilation ability and causing ecosystem loss and eutrophication of surface and groundwater systems.[14] Not only is the embedded carbon from the life cycle before the food became waste lost, further greenhouse gas emissions are associated with food waste's final disposal.[15] As Vaque points out, food waste also generates the need for a parallel waste management sector alongside the food chain, which brings its own costs and negative externalities.[16] Therefore, at a time when globally we are seeking to end deforestation and reverse biodiversity loss and pursuing efforts to limit the global temperature increase to 1.5°C above pre-industrial levels, minimisation of food waste will play a vital role.[17]

Food waste is a complex problem. There are multiple causes, many of which are interrelated. This thesis will argue that the overproduction of food, driven by economic incentives at the retail level, is one of the most significant causes of food waste, both in the supply chain and at the household level. If we are to move to a more sustainable food system, one of the most pressing challenges for governments and regulators will be to intervene in the food production system to reduce the overproduction of food. As Bradshaw points out, '[food] waste raises fundamental questions at the heart of environmental law: matters of value and distribution; the extent of individual and business responsibility; and the role of the state in addressing global problems'.[18] These are important themes that will be examined throughout the course of this thesis.

The purpose of this first chapter is to set out the causes of food waste and how the problem has been framed by some scholars, particularly in the policy literature, as an issue of consumer profligacy. This chapter instead presents an alternative way of thinking about the causes of food waste that has recently emerged in food waste scholarship. Key to this understanding is that, although food waste occurs at all stages in the production and consumption of food, it is important not to conflate the location where the waste arises with its

[12] FAO Food Wastage Footprint: Impacts on Natural Resources (Summary Report) (FAO, 2013)
[13] Stuart (n 11) 91.
[14] Luis Gonzalez Vaque, 'Food Loss and Waste in the European Union: A New Challenge for the Food Law' (2015) 2015 European Food and Feed Law Review (EFFL) 20, 22. Krista L Thyberg and David J Tonjes, 'Drivers of Food Waste and Their Implications for Sustainable Policy Development' (2016) 106 Resources, Conservation and Recycling 110, 112–113.
[15] E Papargyropoulou and others, 'The Food Waste Hierarchy as a Framework for the Management of Food Surplus and Food Waste' (2014) 76 Journal of Cleaner Production 106, 114.
[16] Vaque (n 14) 22.
[17] WWF-UK, 'Driven to Waste: The Global Impact of Food Loss and Waste on Farms' (World Wildlife Fund UK 2021) 4.
[18] Carrie Bradshaw, 'England's Fresh Approach to Food Waste: Problem Frames in the Resources and Waste Strategy' (2020) 40 Legal Studies 321, 322.

cause.[19] It will be argued that retail practices are implicated in the generation of significant amounts of food waste that occurs both in the supply chain (primary production and manufacturing) and in consumer households.

The remainder of this chapter is structured as follows. Section 2 begins by illustrating the locations in the food system where waste occurs before setting out the most common causes of food loss and waste in retail supply chains (pre-consumption). Section 3 moves on to the causes of household food waste and discusses the problematic framing of consumers as responsible for the vast majority of post-farm gate food waste. In section 4 the problem of overproduction is highlighted along with retail risk avoidance strategies that deflect the potential costs of high levels of food availability onto weaker actors in the supply chain. Finally, as a basis for analysis in the chapters to follow, section 5 situates proposed solutions to the problem of food waste within a dichotomy of weak and strong prevention.

1.2. The Extent and Causes of Food Loss and Waste in Retail Supply Chains

Within the food waste literature there is a body of scholarship that attempts to quantify the scale and location of food losses and waste across the food chain.[20] The key theme in this literature is that the vast majority of food waste in developing countries occurs in primary production and within the supply chain.[21] In contrast, in developed countries the largest contribution to food waste occurs at the consumption stage.[22]

This section begins by showing the breakdown of food waste by location in the UK food system before explaining the problem with basing responsibility for food waste on post-farm gate food waste figures. The rest of this section then sets out some of the most significant causes of (pre-consumption) food waste within retail supply chains.

Quantitative research by the Waste Resources Action Programme (WRAP) on the locations within the UK food supply chain where food waste occurs has shown that households generate 70 per cent of post-farm gate food waste, followed by manufacturing (17 per cent), hospitality

[19] Alexander, Gregson and Gille (n 9) 97.
[20] Gustavsson and others (n 4).; Parfitt, Barthel and Macnaughton (n 6).; Carlos Mena, B Adenso-Diaz and Oznur Yurt, 'The Causes of Food Waste in the Supplier–Retailer Interface: Evidences from the UK and Spain' (2011) 55 Resources, Conservation and Recycling 648.; Thyberg and Tonjes (n 14).
[21] Parfitt, Barthel and Macnaughton (n 6).; Gustavsson and others (n 4).
[22] Parfitt, Barthel and Macnaughton (n 6).; Gustavsson and others (n 4).

and food service (9 per cent) and retail (2 per cent).[23] Similar trends have been identified in other industrialised countries.[24]

However, the assumption that the vast majority of food is wasted at the consumption end of the food chain is problematic; there have been very few studies that have actually measured food waste on farms.[25] In the UK, research by WRAP has estimated that around 3.6 million tonnes of food is wasted in primary production.[26] However, WRAP stressed that this may be an underestimate because most of the data was collected through farmer self-reported questionnaires.[27] Research has shown that when farmers self-report they tend to underestimate, particularly in relation to the amount of crop left unharvested in the field.[28] The fact that most quantitative studies leave out the food wasted in primary production creates the perception that households or consumers are responsible for more than their fair share. This is an important point, and I will return to issues of responsibility in the following section.

There is often a tendency in the food waste literature to distinguish between food loss and food waste. Food loss is defined as waste that occurs in the 'part of the food chain that leads to edible food for human consumption' (primary production, processing, manufacturing and distribution), but leaves the supply chain due to misfortune.[29] Food waste, on the other hand, relates to waste in the final stages of the food chain (retail and consumer) where food is ready for human consumption and is wasted due to behavioural factors.[30] This section is mainly concerned with losses that occur in getting food to the point of retail, although in-store losses discussed below would be defined as waste.

Research into food loss in primary production often attributes the causes to technological constraints, for example, the difficulty forecasting supply and demand.[31] Consumer demand can be extremely volatile and is impacted by weather and promotional activities of competitors.[32] Forecasting these events with accuracy is technically impossible, and this leads farmers to overproduce to avoid the risk of not fulfilling customer orders that are placed at short notice. This often creates surplus in the market that subsequently becomes waste.[33] Pre-

[23] WRAP, 'Estimates of Food Surplus and Waste Arisings in the UK' Jan 2017.
[24] Gustavsson and others (n 4) 2.
[25] Ciara Beausang, Clare Hall and Luiza Toma, 'Food Waste and Losses in Primary Production: Qualitative Insights from Horticulture' (2017) 126 Resources, Conservation and Recycling 177.
[26] Bojana Bajzelj, William McManus and Andrew Parry, 'Food Waste in Primary Production in the UK' (WRAP 2019) Technical Report 6.
[27] ibid.
[28] Hanna Hartikainen and others, *Food Losses and Waste in Primary Production* (Nordic Council of Ministers 2017) 65.
[29] Gustavsson and others (n 4) 2.
[30] ibid.
[31] Massimo Canali and others, 'Food Waste Drivers in Europe, from Identification to Possible Interventions' (2016) 9 Sustainability 37, 7.
[32] ibid 8.
[33] ibid.

harvest environmental factors also play a role, including variety selection, crop management and pests and disease, as well as localised conditions such as weather and soil type, which there are limited opportunities to influence.[34] During harvesting and post-harvest, food loss also occurs due to damage from mechanical harvesting, perishability of farm products in storage and transportation, processing damage and errors, and suboptimal use of packaging and labelling.[35]

However, one of the most significant causes of food loss in primary production is cosmetic quality standards. The EU put in place marketing standards to regulate the appearance, size and shape of various kinds of fruit and vegetables in 1972.[36] The regulations have been amended a number of times and have since 1996 included specific standards for 36 different types of fruit and vegetables.[37] The rationale behind the regulations was to facilitate comparison among agricultural products and also to provide a minimum quality guarantee for EU consumers.[38] Introduction of the regulations was supported by industry *'*as standardising agricultural products not only facilitates trade, transport and manufacturing but also creates a common European market'.[39] On a practical level, fruit and vegetables of the same size and shape are easier to fit into standardised boxes and are more amenable to automated processing and packing.[40] However, the EU quality regulations have had a profound impact on food loss.[41] Stuart gives the example of a British wholesaler who in 2008 was forced to discard 5,000 kiwi fruit because they were four grams under the EU's specified weight, the equivalent of being one millimetre too thin.[42] The fact that the regulations were causing perfectly nutritious, tasty and valuable food to be wasted at a time when food prices were rising led the European Commission to relax the regulations on cosmetic standards.[43] An amendment to the regulations in 2011 abolished specific marketing standards for 26 fruit and vegetable products.[44] Nevertheless, the impact of the revised regulations has been rather limited:[45] first, because the regulations retain quality standards for ten of the largest crop

[34] Bajzelj, McManus and Parry (n 26) 12.; Also see Beausang, Hall and Toma (n 3) 178.; Hartikainen and others (n 28).
[35] Canali and others (n 31) 7.; Hartikainen and others (n 28).
[36] See Regulation (EEC) No 1035/72 of the Council of 18 May 1972 on the common organisation of the market in fresh fruit and vegetables OJEC L118/1.
[37] See Art.2 Council Regulation (EC) No 2200/96 of 28 October 1996 on the common organization of the market in fruit and vegetables OJEC L297/1.
[38] Alina Adams, 'Drivers of Food Waste and Policy Responses to the Issue: The Role of Retailers in Food Supply Chains' (Institute for International Political Economy 2015) Working Paper, No. 59/2015 16.
[39] ibid.
[40] ibid.
[41] Beausang, Hall and Toma (n 3) 178.
[42] Stuart (n 11) 106.
[43] See Art 3(2) Commission Implementing Regulation (EU) No 543/2011 of 7 June 2011 laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 in respect of the fruit and vegetables and processed fruit and vegetables sectors OJEU L157.
[44] ibid.
[45] Canali and others (n 31) 49.; Also see Martin Bowman and Christina O'Sulivan, 'Famers Talk Food Waste: Supermarkets' Role in Crop Waste on UK Farms' (Feedback 2018).

categories, accounting for 75 per cent of EU trading value;[46] second, and crucially, retailers have continued to apply private standards that exceed the minimum set by both the previous and existing EU regulations.[47]

Research has shown that substantial amounts of perfectly edible fresh fruit and vegetables continue to be discarded because they fail to meet quality standards based on weight and visual appearance (size, colour and shape, and freedom from defects).[48] Exactly how much waste can be attributed to cosmetic quality standards is unclear and varies depending on the type of crop.[49] However, UK data indicates that somewhere between 20–40 per cent of crops destined for the retail market are either not harvested or graded out before leaving the farm gate.[50] As Bond and others explain, because many UK farmers are contracted to the big retailers, with few alternate market options for residual goods, sub-standard but still perfectly edible produce is often either redirected to animal feed or simply ploughed back into the ground.[51] Some commentators have argued that the imposition of strict cosmetic quality standards is a method of regulating the risks of not fulfilling contractual obligations when demand falls below forecast levels.[52] For example, they are enforced more rigorously when demand is low and relaxed when demand is high; thus, sales are maximised while the risk and costs of cosmetic grade-outs fall on the supplier.[53]

Further down the supply chain, in food processing and manufacturing, overproduction to meet short-notice retail orders is problematic for short shelf-life products such as ready meals where consumer demand is subject to volatility.[54] Edible surplus is also created due to production inefficiencies and errors.[55] In manufacturing, surplus product is often created because of production over-runs or when the production line changes. For example, when changing from one flavour to another the set-up batch contains mixed flavours and, although perfectly edible,

[46] The ten specific standards outlined in the Commission Implementing Regulation (EU) No. 543/2011 are for: apples, citrus fruits, kiwi fruit, the lettuce product group, curly endive and broad-leaved endive, peaches and nectarines, pears, strawberries, sweet peppers, table grapes, tomatoes. In addition to these ten specific marketing standards, Commission Implementing Regulation (EU) No. 1333/2011 describes the specific marketing standards for bananas. This brings the total specific marketing standards for fruit and vegetables to 11.
[47] Stuart (n 11) 108.; Adams (n 38) 18.; Leon A Terry and others, 'Fruit and Vegetable Resource Maps: Mapping Fruit and Vegetable Waste through the Wholesale Supply Chain' (WRAP 2011) RC008 79.
[48] Christine Göbel and others, 'Cutting Food Waste through Cooperation along the Food Supply Chain' (2015) 7 Sustainability 1429, 1434.; Stuart (n 11) 102.; Beausang, Hall and Toma (n 3) 178.; Mark Bond and others, 'Food Waste within Global Food Systems. A Global Food Security Report.' (2013) <www.foodsecurity.ac.uk> accessed 3 March 2018.; Carlos Mena and others, 'Causes of Waste across Multi-Tier Supply Networks: Cases in the UK Food Sector' (2014) 152 International Journal of Production Economics 144.
[49] Hartikainen and others (n 28).
[50] Adams (n 38) 18.
[51] Bond and others (n 48) 10.
[52] Zsuzsa Gille, 'From Risk to Waste: Global Food Waste Regimes' (2012) 60 The Sociological Review 27, 34.; Also see Bowman and O'Sulivan (n 45).
[53] Gille (n 52) 34.
[54] Canali and others (n 31) 17.
[55] Mena and others (n 48).

cannot be sold on the retail market.[56] Edible food is also lost as a result of cutting, trimming and packaging processes.[57]

In terms of production error, mistakes can occur (meaning food is packaged or labelled incorrectly) and in many sectors the cost of reworking (removing the incorrect packaging and repackaging the product) is prohibitively expensive.[58] Food losses may also arise through handling errors. During the manufacturing process, any food that touches the floor as a result of mechanical failure or human error must be discarded for food safety reasons.[59] Losses may also occur through physical damage in transit from the manufacturer to the retailer's depot or from depot to store, or because products have been transported at the wrong temperature.[60]

In store, the highly competitive nature of the retail market means that retailers maintain high levels of on-shelf availability to ensure customer satisfaction and long-term loyalty.[61] The overstocking of short shelf-life foods to create the impression of abundance means significant amounts of produce (bakery items and fresh fruit and vegetables in particular) end up as surplus or waste as they are removed from shelves as they approach their 'best before' or 'use-by' date.[62] In addition to surplus stock, products are also removed due to damaged packaging resulting from poor handling by staff or customers. As Stuart points out, 'this often consists of a minor tear or mark on the outer packaging, which doesn't affect the food inside, but the supermarkets still choose to throw it away'.[63] Technological errors also occur in supermarkets, and problems with supermarket chillers or freezers may cause food to be discarded at the retail stage.[64]

The above section illustrates that surplus food, much of which is perfectly edible, is created at many points in the retail supply chain due to a range of causes, but for economic or food safety reasons is often wasted.

[56] Paola Garrone and others, 'Reducing Food Waste in Food Manufacturing Companies' (2016) 137 Journal of Cleaner Production 1076, 1080.
[57] Mena and others (n 48) 151.
[58] Garrone and others (n 56) 1079.
[59] Stuart (n 11) 51.
[60] Mena and others (n 48) 154.
[61] Bond and others (n 48) 11.
[62] Stuart (n 11) 27–28.
[63] ibid 28.; Also see Clara Cicatiello and others, 'The Dark Side of Retail Food Waste: Evidences from in-Store Data' (2017) 125 Resources, Conservation and Recycling 273, 276.
[64] Mena and others (n 48) 150.; Parfitt, Barthel and Macnaughton (n 6) 3076.

1.3. Consumer Responsibility for Food Waste

Given that the majority of post-farm gate food waste arises at the consumption stage, particularly in households, there is unsurprisingly a great deal of research targeted at understanding consumer-related causes of food waste.[65] The literature illustrates that the reasons for household food waste are complex.[66] This section sets out some of the explanations provided in the literature as to why so much food is wasted in consumer households. As will be shown, there are many potential contributing factors, including differences in the way people value food, the materiality of food itself, and the material infrastructure for buying and provisioning it as well as structural explanations.

1.3.1. Causes of Household Food Waste

Some commentators claim that the amount of food consumers waste in the household is related to how they value food, which is in turn driven by a complex range of factors, many of which are interrelated and some of which are disputed.[67] These factors include *inter alia* socio-economic, demographic, cultural, environmental and material influences.[68]

A theme in the literature is that household food waste is driven by the relatively low price of food in comparison to disposable income, and that there is strong evidence to suggest that food waste increases as the proportion of income spent on food declines ─ because consumers can afford to waste it.[69] Ellison and Lusk found that higher-priced food tended not to go to waste compared with lower-priced items.[70] As Hebrok and Boks point out, 'the abundance of food available at low prices in affluent countries influences how we value food and subsequently how much food we waste'.[71] However, the influence of household income on food waste is contested.[72] Research by Melbye and others found no significant relationship

[65] Marie Hebrok and Casper Boks, 'Household Food Waste: Drivers and Potential Intervention Points for Design – An Extensive Review' (2017) 151 Journal of Cleaner Production 380.; Luca Secondi, Ludovica Principato and Tiziana Laureti, 'Household Food Waste Behaviour in EU-27 Countries: A Multilevel Analysis' (2015) 56 Food Policy 25.; Luiza Toma, Montserrat Costa Font and Bethan Thompson, 'Impact of Consumers' Understanding of Date Labelling on Food Waste Behaviour' [2017] Operational Research 1.; Raquel Diaz-Ruiz, Montserrat Costa-Font and José M Gil, 'Moving Ahead from Food-Related Behaviours: An Alternative Approach to Understand Household Food Waste Generation' (2018) 172 Journal of Cleaner Production 1140.; Christian Reynolds and others, 'Review: Consumption-Stage Food Waste Reduction Interventions – What Works and How to Design Better Interventions' (2019) 83 Food Policy 381, 8.

[66] Marie Hebrok and Casper Boks, 'Household Food Waste: Drivers and Potential Intervention Points for Design – An Extensive Review' (2017) 151 Journal of Cleaner Production 380, 382.

[67] ibid 381.

[68] Hebrok and Boks (n 66).; Parfitt, Barthel and Macnaughton (n 6).

[69] Parfitt, Barthel and Macnaughton (n 6) 3078.; Stuart (n 11).; Brian Wansink, 'Household Food Waste Solutions for Behavioral Economists and Marketers' (2018) 24 Journal of Food Products Marketing 500.

[70] Brenna Ellison and Jayson L Lusk, 'Examining Household Food Waste Decisions: A Vignette Approach' (2018) 40 Applied Economic Perspectives and Policy 613.

[71] Hebrok and Boks (n 66) 383.

[72] ibid.

between household income and attitudes toward wasting food.[73] In a study of middle- and low-income households, Porpino and others found evidence that low-income households also generate significant amounts of waste.[74] In poorer households, the propensity to waste food is influenced by cultural factors including hospitality and the 'good mother' identity, which lead to an overabundance of food being prepared and served because food is seen as wealth and people did not want to be identified as poor.[75] Wansink argues that, in addition to affordability, in developed countries food is more available and attractive than ever before. Food can be bought in all sorts of locations, including hardware stores and service stations, and in increasingly new and novel flavours, enticing us to buy food we do not really need that is subsequently wasted.[76]

Household demographics are another factor cited as influencing the amount of food wasted by consumers.[77] Studies have shown that older people are likely to waste less than younger people, with those aged over 65 wasting the least.[78] Quested and others offer a number of reasons for this, including exposure to food rationing and austerity following World War II and better education in relation to cooking and food management in the home.[79] As Ellison and Lusk have noted, it is also likely that people in older age groups have more time for food management activities. It may also be the case that younger consumers purchase more convenience-oriented items, which by their nature lend themselves to higher levels of waste.[80] Household size is another factor; research has shown that households with single occupants are the most wasteful, followed by households with children, albeit how much is wasted depends on the children's age.[81]

Cultural aspects also play a role in the generation of food waste. In addition to wanting to convey a perception of abundance, cultural differences in the types of food eaten and the way food is prepared also impact on levels of food waste generated.[82] For example, studies in the

[73] Elisabeth Lind Melbye, Yuko Onozaka and Håvard Hansen, 'Throwing It All Away: Exploring Affluent Consumers' Attitudes Toward Wasting Edible Food' (2017) 23 Journal of Food Products Marketing 416, 426.
[74] Gustavo Porpino, Juracy Parente and Brian Wansink, 'Food Waste Paradox: Antecedents of Food Disposal in Low Income Households' (2015) 39 International Journal of Consumer Studies 619.
[75] ibid.
[76] Wansink (n 69) 504.
[77] TE Quested and others, 'Spaghetti Soup: The Complex World of Food Waste Behaviours' (2013) 79 Resources, Conservation and Recycling 43, 47.; Parfitt, Barthel and Macnaughton (n 6) 3077.
[78] Clive Hamilton, Richard Denniss and David Baker, 'Wasteful Consumption in Australia' (The Australia Institute 2005) Discussion Paper Number 77 7.
[79] Quested and others (n 77) 47.
[80] Ellison and Lusk (n 70) 629.
[81] Parfitt, Barthel and Macnaughton (n 6) 3076.
[82] ibid 3077.

US have shown that Hispanic households waste approximately 25 per cent less than non-Hispanic households.[83]

A study by Diaz-Ruiz and others also found that consumer food waste behaviours may be predicated on concern for the environment as opposed to materialistic values.[84] Their research found that consumers who care for the environment exhibit enhanced food waste prevention behaviours, for example, shopping according to pre-prepared lists and only buying what is needed.[85] In contrast, consumers with higher materialistic values tended to generate much higher levels of food waste.[86] Along similar lines, Parfitt and others have argued that a lack of understanding of the social and environmental impacts of food waste is a significant driver.[87]

Quested and others assert that 'the generation of food waste is not a behaviour in itself but results from the interaction of multiple behaviours'.[88] These include lack of planning, provisioning, storage and cooking skills (reusing leftovers), along with poor interpretation of date labels that means food is not used in time (past best before or use by date) and the preparation or serving of too much food.[89]

1.3.2. Material and Structural Causes of Food Waste

The notion that consumers do not care about the food they waste or can simply afford to throw food away is disputed by Evans. Although Evans admits the household accounts for over 40 per cent of the UK's food waste, he asserts that claims of contemporary cultures as 'throwaway societies', indicating behavioural deficiencies, do not stand up to empirical scrutiny.[90] Evans's ethnographic research has shown that consumers do care about the amount of food they waste and discarding food (and other household items) is already an 'anxiety laden process'.[91]

Evans offers a different set of factors that explain why food is often wasted in the household. These include: social norms that tell us we must eat healthily, preparing meals from scratch and using fresh ingredients; large out-of-town supermarkets that make it more convenient to

[83] ibid.
[84] Raquel Diaz-Ruiz, Montserrat Costa-Font and José M Gil, 'Moving Ahead from Food-Related Behaviours: An Alternative Approach to Understand Household Food Waste Generation' (2018) 172 Journal of Cleaner Production 1140, 1148.
[85] ibid.
[86] ibid.
[87] Parfitt, Barthel and Macnaughton (n 6) 3077.
[88] TE Quested and others, 'Food and Drink Waste from Households in the UK' (2011) 36 Nutrition Bulletin 460, 463.
[89] Parfitt, Barthel and Macnaughton (n 6) 3077–3079.
[90] David Evans, *Food Waste: Home Consumption, Material Culture and Everyday Life* (Bloomsbury Academic 2014) 21–22.
[91] ibid 45.

shop weekly, rather than buy what is needed on a daily basis[92] and the packaging of food in supermarkets, which often means more food is bought than is necessary.[93] These factors then clash with the realities of busy life and modern-day divisions of labour, meaning plans often change, and food is not used when intended.[94] Evans argues that consumers are anxious about wasting food.[95] However, apprehensions about food waste are often displaced by concerns about food safety.[96] Consumer confusion about the meaning of date labels often means that food that is past its 'best before' date is considered by many people as not fit for human consumption.[97]

The extent to which consumers are in fact to blame for current levels of household food waste, and should in turn be responsible for resolving the problem, is disputed. Evans argues that there is an overemphasis on the consumer in public and policy debates about food waste, stating: 'At worst, they are blamed and chastised for current levels of waste generation and at best, responsibilities for affecting change are located at their door.'[98] He believes food waste should not be viewed as an 'end of pipe problem in which consumers are positioned as the main offenders.'[99]

The conception of individual consumers as being responsible for the vast majority of food waste in developed countries is clearly problematic. However, the tendency in the food waste literature to make a distinction between food loss and food waste is also problematic. As Horton and others point out, the creation of separate definitions for food loss and food waste is in itself 'evidence of a lack of joined up thinking'.[100] Expressing loss and waste in different ways, with different meanings, leads to confusion about their relative importance and what should be done to reduce them.[101] Gille argues that the framing of food *loss* as a problem of technical inadequacy or supply chain inefficiency indicates that it is accidental in nature, while framing food *waste* as a result of profligate consumer behaviour suits the interests of policymakers and industry.[102] Reducing food loss then requires investment in technology to increase supply chain efficiency, while reducing food waste requires either nanotechnology in packaging or teaching consumers how to interpret dates on food labels and use up their

[92] David Evans, 'Blaming the Consumer – Once Again: The Social and Material Contexts of Everyday Food Waste Practices in Some English Households' (2011) 21 Critical Public Health 429, 435.
[93] ibid.
[94] ibid 434–435.
[95] Evans, *Food Waste: Home Consumption, Material Culture and Everyday Life* (n 90) 45.
[96] ibid 46.
[97] Evans, 'Blaming the Consumer – Once Again' (n 92) 436.
[98] Evans, *Food Waste: Home Consumption, Material Culture and Everyday Life* (n 90) 13.
[99] ibid.
[100] Peter Horton and others, 'Food Chain Inefficiency (FCI): Accounting Conversion Efficiencies Across Entire Food Supply Chains to Re-Define Food Loss and Waste' (2019) 3 Frontiers in Sustainable Food Systems 79, 2.
[101] ibid.
[102] Gille (n 52) 41.

leftover food.[103] Technological innovation to optimise industry practices and reduce loss and waste is a 'win–win' for industry, reducing the cost of doing business while tackling the 'externalities' of waste.[104] Nevertheless, this framing obscures the role that structural factors play in the creation of food waste, which has quite different policy implications.[105]

Consumers are to some extent responsible for the food they waste. However, as Alexander and others have pointed out, although food waste occurs at all stages in the production and consumption of food, it is important not to conflate the location where the waste arises with its cause.[106] As will be argued below, often the factors that contribute to the consumer's propensity to waste food originate well outside the household. The same is also true for food that is wasted on farms.[107] There is a growing consensus within food waste scholarship that significant amounts of food waste are caused by structural or systemic factors beyond the control of any one individual.[108] Structural explanations for food waste include economic incentives for overproduction and retail practices that pass the problem of surplus onto farmers and consumers.[109] As Gille points out, public discourse on food waste often neglects structural causes 'such as portion size, marketing campaigns (such as two-for-one deals), labelling, the length of supply chains, the politics of food prices, all of which have led to a "race to the bottom" and ever harsher competition among food producers'.[110] These structural issues are the subject of the following section.

1.4. The Problem of Overproduction

In this section it is argued that overproduction, driven by economic incentives at the retail level, is one of the most significant underlying causes of food waste. As will be illustrated below, overproduction to support excessive levels of retail food availability causes surplus and waste on farms and in manufacturing while also indirectly driving food waste at the consumer level. The first part of this section argues that unsustainable levels of overproduction are locked into the food production system. The remainder of the section then explains how retailers' power and central position as gatekeeper to the consumer allow the use of risk avoidance strategies to deflect the risks and costs of overproduction, both up the supply chain to producers and

[103] ibid.
[104] Marie Mourad, 'Recycling, Recovering and Preventing "Food Waste": Competing Solutions for Food Systems Sustainability in the United States and France' (2016) 126 Journal of Cleaner Production 461, 468.
[105] Gille (n 52) 40.
[106] Alexander, Gregson and Gille (n 9) 97.
[107] Gille (n 52) 39.; Alexander, Gregson and Gille (n 9) 474–475.
[108] Rudolf Messner, Hope Johnson and Carol Richards, 'From Surplus-to-Waste: A Study of Systemic Overproduction, Surplus and Food Waste in Horticultural Supply Chains' (2021) 278 Journal of Cleaner Production 123952.; Carrie Bradshaw, 'Waste Law and the Value of Food' (2018) 30 Journal of Environmental Law 311.; Alexander, Gregson and Gille (n 9).; Gille (n 52).; David Evans, 'Beyond the Throwaway Society: Ordinary Domestic Practice and a Sociological Approach to Household Food Waste' (2012) 46 Sociology 41.
[109] ibid.; Alexander, Gregson and Gille (n 9) 475.; Evans, *Food Waste: Home Consumption, Material Culture and Everyday Life* (n 90) 96.
[110] Gille (n 52) 41.

down to consumers. As a result, consumers and suppliers disproportionately bear both the economic cost and the responsibility for food waste.

At the larger food system level, Kuokkanen and others argue that unsustainable levels of overproduction have now become locked in through underlying mechanisms, linked initially to agricultural policy and agronomic intensification, intended to increase food production and ensure food security following World War II.[111] However, over the last half-century food production in developed countries has increased well above the levels required to meet 'nutritional needs or to create sufficient safety stocks to secure food availability'.[112]

The growing gap between food production and what is needed to meet nutritional requirements is illustrated by the amount of surplus food made available by the retail market in developed countries.[113] The retail sector in Europe makes available in excess of 3300 kcals of food per day.[114] The recommended average intake is just 2000 kcal.[115] Some overproduction is necessary to provide food security, given the existence of environmental threats such as adverse weather and pests and disease. However, the excessive gap between what is being produced and what consumers actually need to satisfy nutritional requirements means that a significant proportion of the difference will end up either as food waste or contributing to diet-related non-communicable diseases.[116] Therefore, it is no surprise that as much as 30–50 per cent of all food produced ends up being wasted. Research in the US has found that per capita food waste has now reached levels in excess of 1400 kcal per day.[117] Such high levels of food waste, and the profound environmental consequences it causes, are now, in fact, 'threatening, not safeguarding global food security'.[118] As such, the most pressing challenge for society is to address the systemic overproduction of food and the waste it causes (this may also help curb the obesity pandemic).[119] Nevertheless, food production and consumption are driven by market forces, and there are strong economic incentives for overproduction.

[111] Anna Kuokkanen and others, 'The Need for Policy to Address the Food System Lock-in: A Case Study of the Finnish Context' (2017) 140 Journal of Cleaner Production 933, 941.
[112] Rudolf Messner, Carol Richards and Hope Johnson, 'The "Prevention Paradox": Food Waste Prevention and the Quandary of Systemic Surplus Production' (2020) 37 Agriculture and Human Values 805, 812.
[113] Vaclav Smil, 'Improving Efficiency and Reducing Waste in Our Food System' (2004) 1 Environmental Sciences 17, 22.
[114] ibid.
[115] ibid.
[116] ibid.
[117] Kevin D Hall and others, 'The Progressive Increase of Food Waste in America and Its Environmental Impact' (2009) 4 PLOS ONE e7940, 1.
[118] Effie Papargyropoulou and others, 'The Food Waste Hierarchy as a Framework for the Management of Food Surplus and Food Waste' (2014) 76 Journal of Cleaner Production 106, 112.
[119] Hall and others (n 117) 2.

As stated above, the retail food market is highly competitive. Culturally embedded retail management practices focus on maintaining high levels of on-shelf availability to ensure customer satisfaction and long-term loyalty.[120] As Welch and others have pointed out, 'The underlying principle of retail supply chains is high throughput with waste accepted as a by-product'.[121] From the retail perspective, overproduction and overstocking of supermarket shelves provide the opportunity to maximise profits, so long as the economic risks associated with overproduction and the food waste it causes fall on less powerful actors in the food system.[122] Retailers are the gatekeepers to the supply chain both upstream and downstream.[123] Therefore, retailers' power and central position permit the risks associated with overproduction to be deflected upstream on to suppliers through unfair trading practices and downstream to consumers through marketing practices and choice editing.[124]

1.4.1. Upstream Risk Avoidance: Unfair Trading Practices

The food waste literature identifies unfair trading practices as a key mechanism for retailers to avoid the risks and costs of high levels of on-shelf availability and the food waste it causes.[125] As Gille points out, farming is an inherently risky economic activity; the vagaries of weather, pest outbreaks and, in particular, fluctuations in market demand make for an uncertain environment for producing food.[126] The uncertainty created by demand fluctuations is not limited to primary production but also drives overproduction by food manufacturers further up the supply chain. What makes retail practices unfair is the way that demand uncertainty is organised or apportioned.[127] As will be illustrated below, retail supply contracts play an important role in deflecting the risk of overproduction and high on-shelf availability onto suppliers.[128]

The primary link between overproduction and unfair trading practices relates to retail problems with forecasting consumer demand. Inaccurate or poorly prepared forecasting is a key driver of food waste for farmers and food manufacturers.[129] Forecasting sales is difficult for retailers, as consumer demand is subject to short-term fluctuations caused by weather, consumer

[120] Bond and others (n 48) 11.
[121] Daniel Welch, Joanne Swaffield and David Evans, 'Who's Responsible for Food Waste? Consumers, Retailers and the Food Waste Discourse Coalition in the United Kingdom' [2018] Journal of Consumer Culture 1, 4.
[122] Carrie Bradshaw, 'The Environmental Business Case and Unenlightened Shareholder Value' (2013) 33 Legal Studies 141, 152.
[123] Kuokkanen and others (n 111) 940.
[124] Messner, Richards and Johnson (n 112).
[125] Stuart (n 11) 109.
[126] Gille (n 52) 30.
[127] ibid.
[128] Bradshaw, 'The Environmental Business Case and Unenlightened Shareholder Value' (n 124) 152.
[129] Stuart (n 11).; Ranjan Ghosh and Mattias Eriksson, 'Food Waste Due to Retail Power in Supply Chains: Evidence from Sweden' (2019) 20 Global Food Security 1.; Canali and others (n 31).

trends and promotions by competitors.[130] Nevertheless, for retailers on-shelf availability is a key performance indicator, and as research by Mena and others has revealed, 'the fear of a lost sale is greater than the fear of waste'.[131] As such, there is a tendency for retailers to overstock rather than run short and let their customers down.[132]

To ensure retailers have sufficient stock to maintain high levels of on-shelf availability, supply contracts include 'product availability' clauses that require suppliers to have produce available to meet orders at short notice but offer no guarantee that the product will actually be taken.[133] A failure to meet the product availability clause (or retail service levels) may mean the supplier incurs, or is threatened with, contractual penalties for partial or total non-delivery of orders and/or the threat of being delisted as a supplier by the retailer.[134] As a result of this pressure, suppliers often overproduce to ensure service-level targets are met. However, when overly optimistic or inaccurate forecasting means supply exceeds demand, retailers use unfair trading practices to shift the costs onto suppliers, for example, by making unilateral changes to supply contracts to tighten product specifications or cancelling orders at the last minute.[135] For produce with a short shelf-life, these practices leave suppliers little time to sell available surplus product through other outlets, often resulting in large volumes of food going to waste.[136] In the case of supermarket branded products, the supplier may be prohibited from selling surplus elsewhere or even donating it to charity.[137]

As a result of unfair trading practices, the risks and costs of overproduction and high levels of on-shelf availability are disproportionately borne by retail suppliers. Further, as Stuart has argued, given the fact that supermarket power allows the use of unfair trading practices to deflect the costs of inaccurate forecasting on to weaker actors, retailers have little incentive to get their forecasts right.[138] In some instances, suppliers might potentially be able to seek a remedy through contract law, but suppliers are often economically dependent on the

[130] Welch, Swaffield and Evans (n 121) 4.
[131] Mena and others (n 48) 153.
[132] ibid.
[133] European Court of Auditors, 'Combating Food Waste: An Opportunity for the EU to Improve the Resource-Efficiency of the Food Supply Chain' (European Court of Auditors 2016) Special Report No 34 49 <https://www.eca.europa.eu/Lists/ECADocuments/SR16_34/SR_FOOD_WASTE_EN.pdf> accessed 20 August 2018.
[134] ibid.; Also see Stuart (n 11) 109–110.
[135] Parfitt, Barthel and Macnaughton (n 6) 3068.; European Court of Auditors (n 133) 49.
[136] European Court of Auditors, 'Combating Food Waste: an opportunity for the EU to improve the resource-efficiency of the food supply chain Special Report No 34', 2016 Luxembourg. 49.
[137] Stuart (n 11) 48.
[138] EFRA, 'Food Waste in England: Eight Report of Session 2016-17' (House of Commons Environment, Food and Rural Affairs Committee 2017) HC 429 Tristram Stuart Evidence Q28.

supermarkets they supply, and the fear of being delisted prevents legal action or even making a complaint to the retail buyer.[139]

1.4.2. Downstream Risk Avoidance: Retail Marketing Strategies and Date Labelling

As shown above, UK households account for some 70 per cent of post-farm gate food waste. However, research suggests that levels of household food waste are influenced by upstream retail practices.[140] As Messner argues, the risk of food waste created by overproduction is passed down from retailers to the consumer through 'high-volume mass distribution business models, which inherently enable the movement of very large amounts of food surplus further down the chain into households'.[141] The mechanisms involved in this surplus transfer include volume-based pricing strategies, such as buy-one-get-one-free offers, upsizing coupons and packaging, that make buying larger quantities more attractive, and therefore incentivise consumers to over-purchase.[142]

In addition to volume-based pricing strategies, the use of overcautious approaches to date labelling may also help increase product throughput by supporting high levels of overproduction while also shielding retailers from food safety and quality related risks.[143] Research has shown that applying a 'use-by' date instead of 'best before' leads to higher amounts of food waste, because 'use-by' dates are associated with food safety concerns.[144] Similarly, the application of unnecessary 'best before' dates, although not safety related, still influences consumer decisions about whether they should eat the food they have or throw it away.[145]

Food safety regulations require a 'use-by' date for products that deteriorate quickly and, in microbiological terms, are likely to constitute a danger to human health.[146] However, as Bradshaw points out, 'other than this stipulation, the regulations leave the decision as to whether to apply a "use-by" (safety related) or "best before" (quality related) label to food

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[139] Simone Piras and others, 'Unfair Trading Practice Regulation and Voluntary Agreements Targeting Food Waste: A Policy Assessment in Select EU Member States' (REFRESH 2018) D3.2.

[140] Jessica Aschemann-Witzel, Ilona de Hooge and Anne Normann, 'Consumer-Related Food Waste: Role of Food Marketing and Retailers and Potential for Action' (2016) 28 Journal of International Food & Agribusiness Marketing 271.; Also see Cristina Calvo-Porral, Andrés Faiña Medín and Chema Losada-López, 'Can Marketing Help in Tackling Food Waste?: Proposals in Developed Countries' (2017) 23 Journal of Food Products Marketing 42.

[141] Messner, Richards and Johnson (n 112) 809.

[142] Calvo-Porral, Medín and Losada-López (n 140) 54–57.

[143] Gille (n 52) 36.

[144] Norbert LW Wilson and others, 'Food Waste: The Role of Date Labels, Package Size, and Product Category' (2017) 55 Food Quality and Preference 35, 42.

[145] Luiza Toma, Montserrat Costa Font and Bethan Thompson, 'Impact of Consumers' Understanding of Date Labelling on Food Waste Behaviour' (2020) 20 Operational Research 543, 555.

[146] Regulation 1169/2011/EU of 25 October 2011 on the provision of food information to consumers [2011] OJ L304/18 2011, Art. 24(1).

producers'.[147] Nevertheless, retailers have significant influence over the type of label their suppliers provide.[148] In addition, uncut fresh fruit and vegetables and bakery products which are exempt from labelling requirements[149] 'are nonetheless regularly labelled.'[150] The regulations also leave determining the duration of product life to food producers.[151] It has been estimated by WRAP that increasing product life by just one day could save 200,000 tonnes of food waste in the UK on an annual basis.[152] As Bradshaw argues, 'the labelling regime leaves considerable scope for food producers and retailers to adopt over-cautions approaches to date labelling.'[153] In this way, retailers shield themselves from the risks of product liability while at the same time increasing product throughput and profit.[154]

As a result of retail risk avoidance strategies, consumers and suppliers disproportionately bear both the economic cost and the responsibility for food waste, despite the cause originating at the retail level.

1.5. The Challenge: Strong or Weak Prevention

If we are serious about preventing food waste, intervention strategies need to address the overproduction of food.[155] Mourad has defined potential food waste prevention solutions as 'strong' or 'weak' depending on their potential to contribute to greater sustainability in the production and consumption of food.[156] This categorisation provides a helpful way of thinking about how effective potential solutions might be in terms of reducing overproduction. The purpose of this section is, therefore, to situate some of the most commonly cited food waste solutions within Mourad's definition of weak or strong prevention to provide a basis for the analysis in the chapters to follow.

According to Mourad, weak prevention includes measures to optimise production and stock management processes, smart labelling and raising consumer awareness.[157] This is because the focus is on improving efficiency or educating consumers rather than any fundamental change to business models.[158] Some level of food waste reduction may be achieved for food

[147] Carrie Bradshaw, 'Waste Law and the Value of Food' (2018) 30 Journal of Environmental Law 311, 327.
[148] ICF and others, 'Market Study on Date Marking and Other Information Provided on Food Labels and Food Waste Prevention' (European Commission 2018) 62.
[149] Regulation 1169/2011 (n 55) art 9(1) f.
[150] Bradshaw, 'Waste Law and the Value of Food' (n 147) 327.
[151] ibid.
[152] Peter Lee, Steve Osborn and Peter Whitehead, 'Reducing Food Waste by Extending Product Life (Final Report)' (Waste and Resources Action Programme 2015) 1.
[153] Bradshaw, 'Waste Law and the Value of Food' (n 147) 327.
[154] ibid.
[155] Messner, Richards and Johnson (n 112) 807.; Bradshaw, 'England's Fresh Approach to Food Waste' (n 18).
[156] Marie Mourad, 'Recycling, Recovering and Preventing "Food Waste": Competing Solutions for Food Systems Sustainability in the United States and France' (2016) 126 Journal of Cleaner Production 461, 463.
[157] ibid 468.
[158] ibid.

producers by eliminating waste caused by inefficient processes and human error. However, this does not necessarily mean that overall food production or waste will decrease. On the contrary, if food is produced more efficiently the cost savings may actually stimulate increased purchases, and therefore higher levels of overproduction and waste, particularly at the household level.[159] Greater efficiency does not necessarily translate into increased sustainability, and economic growth can quickly undermine modest efficiency gains, particularly where the solution addresses the symptoms rather than the causes.[160] Therefore, while the question of *how* we produce is of obvious importance, the *how much* question is of equal significance.[161]

Another example of weak prevention is redistributing surplus food to people who cannot afford to buy it through normal retail channels.[162] For retailers, food redistribution is a potential win–win, enabling them to benefit from tax incentives and save on disposal costs while also promoting themselves as responsible corporate citizens.[163] However, as Lohnes points out, revaluing food surplus as hunger relief, and therefore expanding the capacity for food surplus redistribution, is a way of ensuring that the 'risks of overproduction and liberal procurement practices are mitigated for large food sector firms'.[164] The risk with food redistribution is that it may reinforce, or even encourage, the production of more surplus while deflecting the debate from the underlying structural causes of hunger.[165]

Mourad argues that weak prevention cannot challenge economic profitability because it is predicated on an industry assumption that it will not lead to major disruption in demand, i.e. customers will not stop buying the 40 per cent of food they currently waste.[166] Mourad states, 'only "strong" prevention would question "what a desired surplus is", and, beyond optimising processes, limit the production and consumption of unneeded food.'[167] Strong prevention means rethinking the overall governance of the food system and its underlying power relationships.[168] Strong prevention would challenge the structural causes of food waste,

[159] Micheal S Carolan, 'Ecological Modernization Theory: What About Consumption?' (2004) 17 Society & Natural Resources 247, 251.
[160] Martin Jänicke, 'Ecological Modernisation: New Perspectives' (2008) 16 Journal of Cleaner Production 557, 564.
[161] Carolan (n 159) 251.
[162] Mourad (n 156) 468.
[163] ibid.
[164] Joshua D Lohnes, 'Regulating Surplus: Charity and the Legal Geographies of Food Waste Enclosure' (2021) 38 Agriculture and Human Values 351, 355.
[165] Messner, Richards and Johnson (n 112) 810.; Sue Booth and Jillian Whelan, 'Hungry for Change: The Food Banking Industry in Australia' (2014) 116 British Food Journal 1392, 1401.
[166] Mourad (n 156) 468.
[167] ibid 469.
[168] ibid 471.

including overproduction and permanent availability of out-of-season produce through long and complex food chains as well as overcautious food safety and aesthetic standards.[169]

In the context of retail supply chains, strong prevention therefore requires measures to address the imbalance of power that allows retailers to use unfair trading practices that drive overproduction and deflect the risks and costs of high levels of on-shelf availability onto suppliers. In addition, strong prevention also means reducing the impact of cosmetic quality standards that remove significant quantities of perfectly nutritious food from the supply chain. However, achieving this requires retailers to help change long-standing consumer social and cultural expectations about what a good fruit or vegetable is. Alternatively, retailers need to work collaboratively with their supply chains to change business models and allow surplus and cosmetically challenged produce to be diverted to food processing and manufacturing.[170]

On the demand side, strong prevention requires taking measures to address the problem of consumer over-purchasing. This means interventions that seek to prevent the risks and costs of overproduction from being transferred onto consumers through volume-based pricing and unnecessary and overcautious date labelling. Mourad argues that legal regulation may be 'the ultimate point of leverage in addressing food waste as a public goods dilemma.'[171]

1.6. Conclusion

This chapter has illustrated that food waste is a complex problem; there are many factors that contribute to its generation in both the production and consumption of food. Environmental factors, technological inadequacies and human error all play a role. Nevertheless, to frame food loss in the supply chain as accidental in nature, and food waste as a problem of profligate consumer behaviour, overlooks the impact of structural and material causes. While the vast majority of food waste arises in the household, consumers should not be held responsible for all the waste that ends up in their bins. Retail practices contribute to significant amounts of surplus and waste that occur in primary production, food manufacturing and at household level. It is argued that the overproduction of food, driven by economic incentives at the retail level, is one of the most significant causes of food waste. Therefore, if we are serious about reducing food waste and moving towards a more sustainable food system, the challenge for governments is to design and implement strong regulatory interventions that tackle the problem of overproduction. Interventions that address power imbalances in the food system that allow the risks and costs of overproduction and the food waste it causes to be deflected by retailers, both upstream on to suppliers and downstream onto the consumer. The following

[169] Mourad (n 156) 469.
[170] ibid.
[171] ibid 471.

chapter sets out what waste law requires in the context of food waste and introduces the two regulatory regimes in the UK that have the potential to impact the overproduction of food.

Chapter 2 - The Role of Regulation

2.1. Introduction

In chapter 1, it was argued that overproduction is one of the most significant causes of food waste. Therefore, the challenge for governments is to design and implement regulatory interventions that tackle the problem of systemic overproduction. The purpose of this chapter is to set out the two regulatory regimes that have a bearing on the food waste problem in England and Wales and highlight some of the potential challenges they face. Preventing waste at the source is the stated legal priority of waste policy and legislation.[1] In the UK, regulatory steps have been taken to prevent food waste. The two key regulatory interventions are the voluntary Courtauld Commitment, facilitated by the Waste Resources Action Programme (WRAP), and the Grocery Supply Chain Code of Practice (GSCOP), overseen by the Grocery Code Adjudicator (GCA). It is important to note from the outset that the GCA's primary function is to regulate unfair trading practices, and therefore, food waste is only a tangential concern. Nevertheless, both regimes have the potential to reduce the overproduction of food.

These two regimes represent quite distinct modes of regulation. As will be illustrated below, situating the two regimes within existing regulatory theory raises some key questions around their effectiveness. Existing research suggests that regulatory efforts to prevent the overproduction of food, and the waste it causes, face various problems related to complexity. There are a number of potential barriers that may constrain the impact of both regulatory approaches. However, this does not necessarily mean that regulatees will not take action to reduce overproduction, as explanations for compliance behaviour are also complex. Businesses are also subject to the conditions of the social licence to operate.[2] Research has highlighted that the commitment to environmental objectives varies between regulatees based on the management style of the business.[3] Where management styles are more in tune with regulatory objectives, some regulatees may be willing to take measures that are difficult to justify based on traditional economic analyses.[4] As such, there is likely to be variation between regulatees in terms of the types of measures they take (or do not take) to reduce food waste.

A thorough search of the literature reveals that, to date, there has been very little academic attention paid to how potential regulatory barriers and external pressures impact efforts to

[1] See the Waste Framework Directive, Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste OJEU L150.
[2] Neil Gunningham, Robert A Kagan and Dorothy Thornton, *Shades of Green: Business, Regulation, and Environment* (Stanford University Press 2003).
[3] ibid.
[4] ibid 319.

prevent food waste caused by overproduction. Some research has been undertaken by Refresh, an EU-funded research project on food waste.[5] However, this research was mainly concerned with comparing different legislative and policy approaches to unfair trading practices and voluntary initiatives for food waste reduction across different EU Member States. However, the research did identify a number of potential problems with both UK regimes. For example, the GSCOP only regulates contractual arrangements between retailers and their direct suppliers, and no protection is offered for those supplying indirectly.[6] The research also identified a fear factor amongst suppliers in relation to raising complaints to the GCA owing to concerns about retaliation by retailers. Regarding the Courtauld Commitment, Refresh's research raised questions around the transparency of the commitment and the need for incentives to encourage wide participation, particularly from primary producers.[7] Nevertheless, the research provided very little detail on how these regulatory regimes work on the ground and how effective they might be at tackling the root causes of food waste. The purpose of this thesis is to begin to address this gap in the literature.

The chapter is structured as follows. Section 2 sets out the requirements of waste law and the duty to prevent waste at the source created by the waste hierarchy. Section 3 introduces the two regulatory interventions, giving a brief explanation of their history and setting out how they are intended to function. In section 4, the Courtauld Commitment and the GCA regimes are situated within existing theoretical understandings of regulation based on their mode of control. In section 5 we turn to the question of regulatory effectiveness and what the existing empirical research tells us about the potential barriers these two regimes might face. The section concludes by explaining how the concepts of the social licence to operate and management style may also play a role in shaping the responses of regulatees.

2.2. The Law and Policy Context

At the global level, the need to reduce food waste has been recognised by the United Nations (UN).[8] In 2015, the reduction of food loss and waste was incorporated into the UN 2030 Sustainable Development Goals (SDG).[9] The aim of SDG 12.3 is to 'By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses'.[10] Internationally, many governments are

[5] See Simone Piras and others, 'Unfair Trading Practice Regulation and Voluntary Agreements Targeting Food Waste: A Policy Assessment in Select EU Member States' (REFRESH 2018) D3.2.
[6] ibid 8.
[7] ibid 67.
[8] United Nations General Assembly, 'Transforming our world: the 2030 Agenda for Sustainable Development' September 2015, A/RES/70/1, 22.
[9] Ibid 22.
[10] Ibid.

now stepping up efforts to reduce food waste.[11] As will be shown below, the obligation to contribute towards meeting SDG 12.3 has recently been incorporated into the legal framework in England and Wales. The following section sets out what waste law currently requires in the context of food. As will be argued below, there are conceptual and practical difficulties with the waste hierarchy that may inhibit its ability to intervene to reduce overproduction.

The problem of food waste engages many areas of law, including contract, tort, competition, trade and food safety, but as Bradshaw points out, 'its legal and policy home is waste law'.[12] In England and Wales, at least for now, most waste law obligations are derived from general EU waste law.[13] While there are a number of relevant Directives, the most important for the purpose of this thesis is the Waste Framework Directive (WFD).[14] The WFD aims to move the EU towards a 'recycling society' by reducing waste generation and using residual waste as a resource.[15] The WFD requires Member States to establish waste management and prevention plans in accordance with the waste hierarchy with the 'aim of breaking the link between economic growth and the environmental impacts of waste generation'.[16]

The WFD's central piece of architecture is contained in Article 4, which creates a priority order for waste prevention and waste management through the 'waste hierarchy'.[17] The hierarchy tells us that preventing waste must take priority over managing it. In the context of food, prevention means taking measures to avoid the accumulation of surplus within the food production system and redistributing any remaining (edible) surplus for human consumption. If not fit for human consumption,[18] it should be recycled for use as animal feed, thus keeping

[11] Champions 12.3, 'SDG Target 12.3 On Food Loss and Waste: 2017 Progress Report' (6 September 2017) <https://champions123.org/wp-content/uploads/2017/09/champions-123-sdg-target-123-2017-progress-report.pdf> accessed 2 September 2018,17.
Ibid 17.

[12] Carrie Bradshaw, 'Waste Law and the Value of Food' (2018) 30 Journal of Environmental Law 311, 312.

[13] The European Union (Withdrawal) Act 2018 converted existing EU law, which applied directly in the UK's legal system (such as EU regulations and EU decisions), into UK law (as it applied immediately before IP completion day) and preserves laws made in the UK to implement EU obligations (e.g. the laws that implement EU Directive). This body of law is known as retained EU law. English and Welsh law was updated on 1 October 2020 to include changes to the Waste Framework Directive (WFD) made in 2018. This was done through the Waste (Circular Economy) (Amendment) Regulations 2020.

[14] Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste OJEU L150. The provisions of the WFD were transposed into domestic law by the Waste (England and Wales) Regulations 2011 SI 2011/988.

[15] Eloise Scotford, 'The New Waste Directive — Trying to Do It All… An Early Assessment' (2009) 11 Environmental Law Review 75, 75.

[16] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste repealing certain Directives OJEU L 312. Arts 28 and 29.

[17] ibid Art 4(1).

[18] Note there are strict regulations on using animal by-products in animal feed. See Regulation 1069/2009/EC of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation) OJEU L300.

it within the food supply chain.[19] In contrast, waste management is concerned with what we do with food that has become waste.[20] The priority order requires that food waste in the first instance should be recycled or recovered through composting or anaerobic digestion (AD).[21] Only if this is not possible should food waste be disposed of by incineration with energy recovery, and finally, the least preferred option, disposal in landfill.[22] If we think about the causes of food waste in the context of the waste hierarchy, then reducing levels of overproduction that cause surplus and waste should in the legal sense take priority. Nevertheless, when applying the waste hierarchy, Member States are required to take measures to encourage the best environmental outcome. Therefore, derogation is permitted for specific waste streams if justified on environmental grounds. In addition, when implementing the Directive, the Member States must also consider *inter alia* technical feasibility and economic viability.[23]

Historically, the hierarchy has been criticised for its lack of clarity and for being difficult to implement in practice.[24] This has led to an overemphasis on managing materials that have already become waste and therefore a failure to promote efficient resource use.[25] Van Ewick and Stegemann argue that the utility of the waste hierarchy is constrained by conceptual and practical difficulties.[26] This is because the hierarchy's priority order fails to quantify the extent to which an option is 'good or bad', specifying only whether options are relatively better or worse.[27] This leads to a common conception that there is a need to 'move up' the hierarchy, implying that incremental improvement is acceptable rather than more radical change.[28] To give an example, recovering surplus food through AD is seen as moving it up the hierarchy, because in environmental terms it is relatively better than landfilling it.[29] However, this fails to

[19] Defra, 'Guidance on Applying the Waste Hierarchy' (Crown Copyright 2011) 6.
[20] Carrie Bradshaw, 'Waste Law and the Value of Food' (2018) 30 Journal of Environmental Law 311, 321.
[21] Anaerobic digestion is a process that utilises bacteria to decompose food waste in the absence of oxygen. As the food breaks down a mixture of methane gas (biogas) and carbon dioxide is given off. The biogas can either be burned in engines to produce electricity and heat or be cleaned and fed into the natural gas grid. The residual digested food waste (digestate) is rich in nutrients (nitrogen, phosphate and potassium), which can be spread on agricultural land as a substitute for artificial fertilisers.[21] AD, therefore, provides a valuable technology for treating unavoidable food waste, contributing to climate change objectives by reducing landfill emissions and producing renewable energy from waste. The residual digestate is recycled back into agriculture, decreasing reliance on artificial fertilisers in line with the circular economy.
[22] Defra, 'Guidance on Applying the Waste Hierarchy' (n 19) 6.
[23] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste repealing certain Directives OJEU L 312. Art 4(2).
[24] Elizabeth Fisher, Bettina Lange and Eloise Scotford, *Environmental Law: Text, Cases & Materials* (2nd edn, Oxford University Press 2019) 544.
[25] ibid.
[26] Scotford (n 15).; S Van Ewijk and JA Stegemann, 'Limitations of the Waste Hierarchy for Achieving Absolute Reductions in Material Throughput' (2016) 132 Journal of Cleaner Production 122.; Bradshaw, 'Waste Law and the Value of Food' (n 20).
[27] Van Ewijk and Stegemann (n 26) 126.
[28] ibid.
[29] Defra, 'Guidance on Applying the Waste Hierarchy' (n 19) 6.

question both whether such surplus food was required in the first place [30] and whether redistributing it to people in need could have prevented it from becoming waste. However, environmentally effective prevention and management of food waste has financial implications. Here, the flawed nature of the hierarchy is demonstrated by the fact that other 'important voter concerns', namely costs, can invalidate it.[31] Thus, for the hierarchy to function in a meaningful way, the priority order must be supported by an economic structure that aligns with its environmental goals.[32]

In addition, Scotford has argued that regulatory interventions to promote waste prevention do not sit easily within the waste law framework as they fall outside the definition of waste.[33] This is because waste obligations only attach to material that has actually become waste, defined in the WFD as, 'any substance or object which the holder discards or intends or is required to discard'.[34] As Bradshaw points out, food waste prevention actually has little to do with waste.[35] Prevention requires intervention in the food production system before there is any intention to discard and before waste regulatory controls apply. Historically, regulatory interventions have therefore tended to focus on end-of-pipe solutions for managing food that has already become waste.[36] As such, opportunities for prevention are overlooked and the hierarchy then becomes the waste management hierarchy.[37]

In an attempt to address tensions within the waste hierarchy at the EU level, the WFD was amended in 2018 with greater emphasis placed on waste prevention and the efficient use of resources.[38] In recognition of the seriousness of the food waste problem, Article 9 of the revised WFD now requires Member States to take measures in line with UN SDG 12.3 to prevent the generation of food waste in primary production, processing, manufacturing and distribution, retail, and in households.[39] In relation to food, Article 4 of the revised WFD now requires Member States to use economic instruments and/or other appropriate measures to incentivise the application of the waste hierarchy[40] and to phase out those subsidies that create inconsistencies.[41] Member States will also be required to measure and report on their

[30] Marie Mourad, 'Recycling, Recovering and Preventing "Food Waste": Competing Solutions for Food Systems Sustainability in the United States and France' (2016) 126 Journal of Cleaner Production 461, 469.
[31] Van Ewijk and Stegemann (n 26) 126.
[32] ibid.
[33] Scotford (n 15) 90.
[34] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste repealing certain Directives OJEU L 312. Art 3(1).
[35] Bradshaw, 'Waste Law and the Value of Food' (n 20) 12.
[36] Catherine Alexander, Nicky Gregson and Zsuzsa Gille, 'Food Waste', *The Handbook of Food Research* (Anne Murcott, Warren Belasco and Peter Jackson (eds), Bloomsbury Academic 2013) 473.; Bradshaw, 'Waste Law and the Value of Food' (n 12) 325.
[37] Bradshaw, 'Waste Law and the Value of Food' (n 20) 12.
[38] Fisher, Lange and Scotford (n 24) 546.
[39] Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste OJEU L150 Arts 9(1)(g).
[40] ibid Art. 4(3).
[41] ibid (Annex IV a [8].

food waste prevention performance annually.[42] In 2020, the amendments to the WFD were transposed into law in England and Wales through the Waste (Circular Economy) (Amendment) Regulations 2020, thereby increasing the legal emphasis on waste prevention. At the time of writing, Defra is in the process of formulating a new Waste Prevention Plan for England that is to set out 'priorities for action to manage resources and waste in accordance with the waste hierarchy'.[43]

However, in terms of waste policy, in 2018, the government published the Waste and Resources Strategy (the Strategy), in which it states that it is fully committed to reducing food waste and 'meeting the UN Sustainable Development Goal to halve global food waste at consumer and retail levels by 2030'.[44] In the Strategy, the government admitted that its 'determination to cut food waste has not been matched by progress, which in recent years has plateaued', [and that] 'A new approach is needed'.[45] The strategy indicated that regulatory intervention may be required to ensure progress and made a number of pledges to consult on regulatory measures. These included introducing regulations to make food waste reporting mandatory for businesses of an appropriate size, set mandatory food waste prevention targets for appropriate food businesses and for surplus food redistribution obligations to be introduced subject to progress made by businesses to reduce food waste.[46]

Yet, as Bradshaw warned, 'promises to consult on food waste legislation are not promises to legislate'.[47] At the time of writing, there has been no consultation on mandatory redistribution or food waste prevention targets. However, the government has indicated the consultation on mandatory reporting will take place by the end of 2021. With a lack of food waste–specific legislation, food waste prevention continues to be largely outsourced to WRAP and the Courtauld Commitment (as will be discussed in more detail below).[48] Nevertheless, the threat of regulation in these areas may still be an important factor for stimulating progress in food waste prevention.

In regard to how the UK should meet its food waste prevention targets, the Strategy places a strong policy emphasis on surplus food redistribution, stating, 'Even the most efficient food system in a developed economy will produce a surplus. The best outcome is that this is

[42] ibid Arts 9(1), 9(3), 9(5).
[43] See Defra, 'Consultation on the Waste Prevention Programme for England: Towards a Resource-Efficient Economy - Defra - Citizen Space' <https://consult.defra.gov.uk/waste-and-recycling/waste-prevention-programme-for-england-2021/> accessed 18 November 2021.
[44] HM Government, 'Our Waste, Our Resources: A Strategy for England' (London, Crown Copyright 2018) 10.
[45] ibid 98.
[46] ibid 103.
[47] Carrie Bradshaw, 'England's Fresh Approach to Food Waste: Problem Frames in the Resources and Waste Strategy' (2020) 40 Legal Studies 321, 343.
[48] HM Government (n 44) 104.; Also see Bradshaw, 'England's Fresh Approach to Food Waste' (n 47).

redistributed before it becomes waste'.[49] To support redistribution the government promised £15 million in funding.[50] The Strategy also recognised the relationship between unfair trading practices and food waste in primary production and announced that the government was 'seeking powers' through the Agriculture Bill to introduce sector-specific statutory codes of contractual conduct to prevent viable produce from going to waste.[51] These Codes are in addition to the GSCOP, which, as stated above, only regulates contractual relationships between retailers and their direct suppliers.

2.3. Food Waste Regulation in England and Wales

As stated above, the government claims that it is fully committed to achieving UN SDG 12.3 and halving food waste by 2030.[52] However, as Messner and others point out, 'strategies to prevent food waste to the extent that meets the aspirations of the SDGs need to address the overproduction of food'.[53] This section introduces the two regulatory regimes, including some background information on why the regimes have been established and who the regulators and regulatees are, as well as an explanation of how the two regimes are intended to function.

2.3.1. The Courtauld Commitment

The primary response to the food waste problem in the UK is the voluntary Courtauld Commitment. Courtauld specifically targets the prevention of food waste and potentially addresses structural drivers such as overproduction.

In the UK, food waste reduction initiatives have been driven largely by WRAP, a not-for-profit company established by the government 'to promote and encourage sustainable resource use through product design, waste minimisation, re-use, recycling and reprocessing of waste materials'.[54] WRAP is funded principally through grants from Defra and the devolved governments of the UK.[55] WRAP's pioneering work has helped to position the UK at the forefront of the food waste problem.[56] Their early reports on the extent of food waste in the UK made media headlines and helped to popularise the environmental significance of food waste both nationally and on the global stage.[57]

[49] HM Government (n 44) 101.
[50] ibid.
[51] ibid 105.
[52] ibid 10.
[53] Rudolf Messner, Carol Richards and Hope Johnson, 'The "Prevention Paradox": Food Waste Prevention and the Quandary of Systemic Surplus Production' (2020) 37 Agriculture and Human Values 805, 807.
[54] 'About Us | WRAP' <https://wrap.org.uk/about-us> accessed 9 September 2017. WRAP subsequently became a registered charity in 2014.
[55] WRAP, *Annual Review 2016/17* (*WRAP*, 2017) http://www.wrap.org.uk/content/annual-review-2016-17 accessed 24 August 2018.
[56] Daniel Welch, Joanne Swaffield and David Evans, 'Who's Responsible for Food Waste? Consumers, Retailers and the Food Waste Discourse Coalition in the United Kingdom' [2018] Journal of Consumer Culture 1, 2.
[57] ibid 3.

WRAP is the facilitator of the Courtauld Commitment, which, since its initial launch in 2005 at a Ministerial event at the Courtauld Gallery in London, is now in its fourth phase.[58] The original signatories included all of the UK's major retailers, who at the time were under pressure from Defra and WRAP to do something about the problem of household food waste or face legislative action.[59] The Commitment's membership has expanded, and as of 2017, in addition to the major retailers, Courtauld's 142 signatories included food manufacturers, restaurants, local authorities, trade associations and NGOs, covering 95 per cent of the grocery market.[60] Courtauld's ambition is not limited to food waste reduction; the Commitment also aims to reduce greenhouse gas emissions associated with food and drink waste and reduce the impact of water use.[61]

In terms of the Commitment's impact, Courtauld has been credited, along with Love Food Hate Waste (WRAP's consumer food waste awareness campaign), with reducing food waste in its first two phases (2005–2012).[62] However, in phase three (2012–2015), the food waste target, a 5 per cent reduction of household food waste by 2015, was not met. In fact, despite considerable efforts, household food waste increased slightly.[63] WRAP attributed this to a combination of factors including UK population growth, falling food prices and an increase in people living alone.[64] However, despite the setback, WRAP, industry and the government are optimistic about the potential for the Commitment to meet food waste prevention targets, both the UN SDG target of a 50 per cent per capita reduction and its UK food waste prevention target, set out below.[65]

In March 2016, the latest iteration, 'Courtauld 2025', was launched; it sets what it claims to be an ambitious target to reduce food and drink waste by 20 per cent per capita by 2025.[66] The baseline year for which progress to reduce food waste was to be measured against is 2015, in which 10.2 million tonnes of food was wasted post-farm gate.[67] Courtauld signatories are required to report to WRAP (in confidence) on their progress towards individual food waste

[58] 'History of the Courtauld Commitment | WRAP' <https://wrap.org.uk/taking-action/food-drink/initiatives/courtauld-commitment/history-courtauld-commitment> accessed 3 October 2018.
[59] Jonathon Bloom, *American Wasteland: How America Throws Away Nearly Half of Its Food (and What We Can Do About It* (Da Capo Press 2010) 272.
[60] WRAP, *Annual Review 2016/17* (*WRAP*, 2017) 13. http://www.wrap.org.uk/content/annual-review-2016-17 accessed 24 August 2018.
[61] WRAP, 'Courtauld Commitment 3: Delivering Action on Waste' (Waste and Resources Action Programme 2017) 20.
[62] EFRA, 'Food Waste in England: Eight Report of Session 2016-17' (House of Commons Environment, Food and Rural Affairs Committee 2017) HC 429 27.
[63] WRAP (n 61) 7.
[64] ibid.
[65] In regard to WRAP and Industry see ibid 20.; Government support of the Courtauld Commitment is confirmed in the 2018 Waste Strategy see HM Government (n 44).
[66] WRAP (n 61) 3.
[67] Emily Gardiner, 'WRAP Restates UK Food Waste Figures to Support United Global Action' (*REFRESH: Community of Experts*) <https://refreshcoe.org/resources/wrap-restates-uk-food-waste-figures-to-support-united-global-action/> accessed 3 October 2018.

reduction targets. WRAP then collates this information and publicly reports the collective progress towards the overall target.[68]

WRAP has stated that an early priority for Courtauld 2025 was to work with leading food businesses 'to identify those high-impact strategic actions that may take some years to develop and pilot, but will be essential to deliver large-scale change'.[69] To this end, in the first year of the Commitment, WRAP set up an overall steering group and ten themed working groups covering key issues: dairy; meat and livestock; fresh produce; food redistribution; and consumer behaviour change.[70] The objective of the working groups is to identify priority food waste areas, design projects to develop and test best practice, and then work collaboratively with industry partners to 'spread good practice more widely across the food system'.[71] For the Fresh Produce Working Group, projects include reducing food waste in primary production through improved forecasting techniques and increasing collaboration between farmers and the retailers they supply.[72] The Food Redistribution Working Group is to consider practical ways to increase food redistribution: 'discuss and share best practice; identify barriers and opportunities; and oversee the development of relevant new resources and approaches to monitoring progress.'[73] According to WRAP, signatories to Courtauld 2025, 'have agreed a shared vision and level of ambition' and aim to double the amount of surplus food redistributed within five years.[74] To facilitate increased redistribution capabilities, WRAP has been made responsible for distributing the £15 million of grant funding made available by the government to mainly charitable redistribution organisations.[75]

In recognition of the role that date labelling plays in the generation of food waste, in 2017, WRAP, in conjunction with the Food Standards Agency (FSA), devolved governments and industry, has updated industry guidance to simplify date labelling and provide clearer guidance on storage.[76] The guidance aimed to both reduce household food waste and remove key barriers to increasing food redistribution, in particular where 'use-by' dates are applied though there is no food safety reason for doing so.[77] The guidance highlights the importance of

[68] Piras and others (n 5) 51.
[69] WRAP (n 61) 20.
[70] WRAP, *Courtauld 2025 Year One – Setting the Foundations for Change* (*WRAP,* December 2017) http://www.wrap.org.uk/courtauld-2025-year-one-setting-foundations-change accessed 10 September 2017
[71] ibid
[72] WRAP, 'Work underway with retailers, farmers and growers to tackle food waste on farm'. (September 2017, WRAP) http://www.wrap.org.uk/content/work-underway-retailers-farmers-and-growers-tackle-food-waste-farm
[73] 'Surplus Food Redistribution Work | WRAP UK' (21 March 2014) <http://www.wrap.org.uk/content/surplus-food-redistribution-wrap-work> accessed 11 September 2018.
[74] ibid
[75] Andrew Parry and Billy Harris, 'Surplus Food Redistribution in the UK 2015 - 2020. Final Report.' (Waste and Resources Action Programme 2021) VFU004-001 7 <https://wrap.org.uk/sites/default/files/2021-06/WRAP-Surplus-food-redistribution-in-the-UK-2015-2020.pdf> accessed 21 June 2021.
[76] WRAP, FSA and Defra, 'Labelling Guidance: Best Practice on Food Date and Storage Advice' (Waste Action Resources Programme, November 2017).
[77] ibid 1.

maximising both open- and closed-packet life.[78] WRAP is working with signatories of the Courtauld Commitment to ensure implementation of the guidance and will monitor progress through store visits and retail surveys.[79]

In September 2018, WRAP and the Institute of Grocery Distribution (IGD) published the *Food Waste Reduction Road Map and Toolkit*, setting out a plan for how retailers and other food businesses are to meet the Courtauld and SDG 12.3 targets.[80] It is important to note that the Roadmap is an additional voluntary commitment and food businesses of all sizes are encouraged to sign up whether they are signatories to Courtauld or not. The Roadmap sets progressive milestones to achieve the food waste reductions required to meet SDG 12.3. The first phase requires retailers and large food businesses to set targets, measure and take action on food waste in their own operations.[81] Phase two requires retailers and large food businesses to work together with suppliers to put in place 'Whole Chain Food Waste Reduction Plans' for those products and supply chains where large amounts of waste are identified.[82] This harnesses the power of corporations and brings small to medium-sized businesses that would be unlikely to participate voluntarily within the scope of the Commitment.[83] Finally, retailers and large food businesses are to engage with consumers to influence their food waste behaviour.[84] The roadmap aimed to have 50 per cent of the UK's largest food companies measuring, reporting and acting on food waste by September 2019, and 250 companies doing so by 2026.[85] WRAP provides the monitoring function and reports on progress towards Roadmap milestones in key years (2020, 2022 and 2026), alongside annual interim updates and reports on progress towards the Courtauld 2025 targets.[86]

2.3.2. The Grocery Supply Chain Code of Practice and the Grocery Code Adjudicator

The second regulatory regime relevant to the food waste problem is the Grocery Supply Chain Code of Practice (GSCOP), policed by the Grocery Code Adjudicator (GCA). As pointed out above, food waste is only a tangential concern for the GCA. However, this regulatory intervention has significant potential to prevent food waste in primary production and

[78] ibid.
[79] ibid 20.
[80] WRAP IGD, 'The Food Waste Reduction Roadmap Toolkit' (Waste and Resources Action Programme 2018).
[81] ibid 5.
[82] ibid 22.
[83] Neil Gunningham and Darren Sinclair, *Leaders and Laggards: Next-Generation Environmental Regulation* (Greenleaf Publishing 2002) 41.
[84] IGD (n 80) 19.
[85] WRAP, 'A world first: UK food industry commits to a landmark roadmap to halve food waste' WRAP UK (25 September 2018 http://www.wrap.org.uk/content/world-first-uk-food-industry-commits-landmark-roadmap-halve-food-waste
[86] IGD (n 80) 9.

manufacturing, where unfair trading practices are causes of overproduction and waste.[87] In the UK, the GSCOP and GCA were put in place due to concerns about retailers using market power to transfer excessive risk and costs on to their suppliers.[88] The current GSCOP was enacted in 2009, but it was not until 2013 that the GCA was established. The remainder of this section gives some background on the Code and the provisions that could potentially reduce food waste, before briefly setting out the GCA's powers and how it operates.

2.3.2.1. The Grocery Supply Chain Code of Practice

The dominant position of supermarkets in the UK food supply chain, along with the implications for suppliers and consumers of misuse of that market power, has been of concern to the competition authorities for some time.[89] The UK retail market has been the subject of two investigations by the Competition Commission.[90] In 2001, as a result of the first investigation, a voluntary code of practice was introduced to govern relations between supermarkets and their suppliers.[91] However, the Code only covered the UK's four largest supermarkets and was immediately criticised for being 'too vaguely worded and weaker than the recommendations made by the Competition Commission'.[92] Despite the voluntary Code, there continued to be a high level of complaints in relation to unfair supermarket practices, and a second inquiry was launched by the Competition Commission in April 2008.[93] The Competition Commission concluded that, although the UK's major supermarkets were delivering a good deal for consumers, 'the transfer of excessive risk and unexpected costs by grocery retailers to their suppliers through various supply chain practices if unchecked will have an adverse effect on investment and innovation in the supply chain, and ultimately on consumers'.[94] In August 2009, the Competition Commission completed a new Grocery Supply Chain Code of Practice that came into force in February 2010, as set out in the Groceries (Supply Chain Practices) Market Investigation Order 2009.[95] The legally binding Code now regulates contractual agreements between supermarkets with a grocery turnover in excess of £1billion and their direct suppliers.[96]

[87] GCA, 'Annual Report and Accounts 1 April 2017 – 31 March 2018' (Groceries Code Adjudicator 2018) HC1088 5.
[88] Competition Commission, 'The supply of groceries in the UK market investigation, (30 April 2008) 6.
[89] Antony Seely, 'Supermarkets: The Groceries Code Adjudicator' (House of Commons Library 2015) Briefing Paper No. 6124 3.
[90] ibid.
[91] ibid.
[92] Friends of the Earth, 'Farmers and the Supermarket Code of Practice' Press Briefing 17 March 2003
[93] Seely (n 89) 3.
[94] Competition Commission, 'The Supply of Groceries in the UK Market Investigation' (Competition Commission 2008) 6.
[95] Seely (n 89) 5.
[96] The Groceries (Supply Chain Practices) Market Investigation Order 2009 Part 2, Schedule 1.

Several provisions in the Code have the potential to reduce levels of overproduction. The Code contains an overarching principle of fair dealing, meaning retailers must deal with their suppliers 'fairly, lawfully and in good faith, without duress and in recognition of their suppliers need for certainty'.[97] The Code prohibits the unfair and unjustifiable delisting of suppliers.[98] Retrospective changes to supply agreements are also prohibited unless the right to do so is clearly and unambiguously set out in the agreement.[99] In terms of overproduction, the most important provision relates to forecasting. Section 10(1) of the Code provides that: 'A Retailer must fully compensate a Supplier for any cost incurred by that Supplier as a result of any forecasting error'. An underlying assumption of this thesis is that if the costs of inaccurate forecasting were borne by the retailer, or at least shared, retailers would be more careful and perhaps more conservative when preparing their forecasts, and such levels of production might be reduced.

2.3.2.2. The GCA's Monitoring and Enforcement of the GSCOP

The Groceries Code Adjudicator Act 2013 put in place the office of the Adjudicator to monitor and enforce compliance with the Code. The primary roles of the Adjudicator are to arbitrate in disputes arising from the Groceries Supply Order and to investigate alleged breaches of the Code by qualifying retailers.[100] However, it is also within the GCA's statutory powers to: provide advice to regulated retailers; publish guidance about the practices and procedures that the Adjudicator intends to adopt in carrying out other functions; and make recommendations to the Competition and Markets Authority, if the Adjudicator considers it appropriate for any changes to be made to the Groceries Code.[101]

In terms of its operational capacity, the GCA has limited resources. The Adjudicator works three days a week and is supported by six full-time staff including a legal advisor, all of whom are (and must be) seconded from other public authorities.[102] Retailers are required to self-report on their compliance annually.[103] Reporting includes details of instances where a breach, or alleged breach, of the Code has been reported to the retailer by a supplier and the steps taken by the retailer to rectify it.[104] The information obtained through retailer self-reporting is verified by the GCA through independent monitoring. This is conducted through direct meetings with suppliers and an annual survey of suppliers collated and analysed by YouGov. The most pressing supplier issues are put into categories (current, monitored and previous)

[97] ibid Part 2, Schedule 1.
[98] ibid Section 16.
[99] ibid Part 4, Schedule 1.
[100] Groceries Adjudicator Act 2013.
[101] See S.11,12 and 13 ibid.
[102] GCA, 'Annual Report and Accounts 1 April 2017 – 31 March 2018' (n 87) 64 The duty to second staff from public authorities is set out in Schedule 1, para 9(1) of the Groceries Adjudicator Act 2013.
[103] The Groceries (Supply Chain Practices) Market Investigation Order Section 10(1).
[104] ibid S. 10(2)(a).

based on the GCA's published prioritisation principles.[105] Current issues receive priority, and retailers must report to the GCA on what steps they are taking towards improving compliance on a quarterly basis.[106]

In terms of enforcement, the GCA may launch an investigation into the activities of a qualifying retailer if it has 'reasonable grounds' to suspect the retailer has broken the Code.[107] Suppliers may make complaints to the GCA anonymously. Once an investigation has been launched, the Adjudicator has extensive powers to require information, including documentation and oral evidence, to be provided by any persons involved.[108] Where an investigation finds a retailer in breach of the Code, the GCA has at its disposal a number of escalating sanctions for non-compliance.[109] These include recommendations to bring the retailer into compliance, which may be coupled with information-based sanctions such as the requirement to publish information about the breach on the retailer's website, in the annual report to shareholders or by a press release, depending on the seriousness of the breach.[110] For the most serious breaches, the GCA can impose financial penalties of up to 1 per cent of a qualifying retailer's turnover.[111]

To date, the GCA has completed two investigations. The first was in relation to Tesco unreasonably delaying payments to their suppliers and resulted in five recommendations being made to improve practices.[112] The second involved the Co-operative Group breaching the Code by delisting suppliers and varying supply agreements without reasonable notice.[113] These breaches resulted in some suppliers incurring significant amounts of food waste.[114] Although acknowledging that this represented a serious breach of two provisions of the Code, the GCA decided that recommendations, rather than financial sanctions, were the proportionate response.[115]

As an additional enforcement mechanism, the GCA publishes a number of league tables based on the information provided by YouGov, including the following: an overall assessment of retailers' compliance with the Code; the extent to which suppliers believe the trading relationship with a particular retailer is conducted in good faith and without duress; and a table

[105] GCA, 'Annual Report and Accounts 1 April 2018 – 31 March 2019' (Groceries Code Adjudicator 2019) HC 2112 30.
[106] ibid.
[107] Groceries Adjudicator Act S.4(1)(a).
[108] ibid Schedule 2.
[109] ibid S.6.
[110] ibid S.8.
[111] Groceries Code Adjudicator (Permitted Maximum Financial Penalty) Order 2015 Art 2.
[112] GCA, 'Groceries Code Adjudicator Investigation into Tesco Plc 26 January 2016' (Groceries Code Adjudicator 2016).
[113] GCA, 'Groceries Code Adjudicator Investigation into Co-Operative Group Limited' (Groceries Code Adjudicator 2019).
[114] GCA, 'Annual Report and Accounts 1 April 2018 – 31 March 2019' (n 105) 25–27.
[115] ibid 29.

that shows whether suppliers believe that retailers' trading practices have improved over the previous twelve months.[116]

The enforcement style used by the GCA is cooperative. The Adjudicator has stated that an approach has been developed 'that fits the resources available, and the outcomes the GCA was set up to deliver. It is a modern regulatory approach, with collaboration and business relations at its core'.[117] In regard to the approach taken by the GCA on statutory review, the government stated, 'the GCA is regarded as an exemplary modern regulator with an international reputation'.[118] Retailers have been supportive of the GCA's approach, stating that:

> The lighter-touch approach to ensuring compliance before problems developed helped facilitate a freer and more open exchange between large retailers and the GCA. A focus on investigation could have created a more adversarial approach.[119]

However, some suppliers and NGOs have criticised the lack of investigations conducted, considering the extent of Code non-compliance, and the fact that indirect suppliers are not covered by the regulatory regime.[120]

As this section has demonstrated, regulatory regimes are in place in the UK to address the problem of food waste, and both the voluntary Courtauld Commitment and the GCA have the potential to reduce levels of overproduction.

2.4. The Regulatory Regimes as Modes of Control

The two regimes that potentially reduce food waste caused by overproduction represent quite different regulatory approaches; they apply different logics as to how best to align the interests of regulatees with regulatory objectives. In this section, the GCA and Courtauld regimes are situated within existing theoretical understandings of regulation based on their mode of control.

A conventional view of regulation emphasises two opposites: freedom and control. In the context of regulating corporations, a government may either allow businesses total discretion to act in line with their own self-interest or impose regulations, removing discretion and

[116] GCA, 'Annual Report and Accounts 1 April 2018 – 31 March 2019' (n 105) 19–21.; The information is also available on the Gov.uk website, see for example, YouGov, GCA Annual Survey 2018, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/721703/GCA_Annual_Sector_Survey_2018_-_the_results.pdf
[117] ibid 13.
[118] BEIS, 'Statutory Review of the Groceries Code Adjudicator: 2013-2016: Presented to Parliament Pursuant to Section 15(7) of the Groceries Code Adjudicator Act 2013' (Department for Business, Energy & Industrial Strategy 2017) 2.
[119] ibid 13.
[120] Tom Wills, 'Traidcraft Submission to Groceries Code Adjudicator Review: Part I' 13. Available at https://www.traidcraft.co.uk/media.ashx/traidcraft-submission-to-gca-consultationpart-i.pdf

threatening sanctions for non-compliance to align business interests with that of society.[121] The latter approach is often characterised as command and control. However, there are a wide range of regulatory options between the polar extremes of absolute discretion and total control. Regulation encompasses a broad range of approaches and techniques intended to shape social behaviour, including both state and non-state standard setting, monitoring and behaviour modification.[122] Morgan and Yeung provide a useful typology of regulatory instruments according to their underlying 'modality' of control, i.e. the way in which the behaviour of regulatees is intended to respond.[123] The classification includes command, competition, communication and consensus, and this typology will be used to characterise the regimes.[124]

2.4.1. The GSCOP and the GCA (Command and Communication)

Despite the terminology 'Code', the GCA regime is command (or command and control) – state promulgation of legal rules underpinned by coercive sanctions should the prohibition be violated.[125] As will be discussed below, the limitations of command and control are well-rehearsed in the regulation literature. However, regulatory instruments can often be used in combination to compensate for weaknesses inherent in any standalone approach.[126] This is the premise of 'Smart Regulation', which argues that, in most circumstances, more effective regulation results from using combinations of regulatory instruments and a broader range of regulatory actors.[127] Hybrid regulatory approaches often combine command and control with other regulatory instruments to 'alleviate regulators limited access to information and expertise, enlist corporate commitment and enhance firms' self-regulatory capacity'.[128]

The information provided by the YouGov survey enables the GCA to use a second form of regulatory instrument ─ communication. Communication, or information-based, regulation attempts to engage with the business's social licence.[129] This is achieved by enriching the information available to a target audience to bring 'indirect social pressure to bear on decision-making, in the hope that it will lead to behaviour change'.[130] Information-based regulation comes in a number of forms, but disclosure of information about business practices usually

[121] Cary Conglianese and Evan Mendelson, 'Meta-regulation and Self-Regulation', Robert Baldwin, Martin Cave and Martin Lodge (eds) *The Oxford Handbook of Regulation* (Oxford, OUP, 2013) 146.
[122] Bronwen Morgan and Karen Yeung, *An Introduction to Law and Regulation: Text and Materials* (Cambridge University Press 2007) xiv.
[123] ibid 9.
[124] ibid.
[125] ibid 80.
[126] Neil Gunningham and Darren Sinclair, 'Smart Regulation' in Peter Drahos (eds) *Regulatory Theory: Foundations and Applications* (ANU Press, 2017) 139.
[127] Neil Gunningham, Enforcement and Compliance Strategies in Baldwin *et a*l (eds) *The Oxford Handbook of Regulation* (Oxford, OUP, 2010) 131.
[128] Sharon Gilad, 'It Runs in the Family: Meta-Regulation and Its Siblings' (2010) 4 Regulation & Governance 485, 486.
[129] Gunningham and Sinclair (n 83).
[130] Morgan and Yeung (n 122) 96.

takes the form of voluntary or mandatory disclosure schemes.[131] Publishing this information is what Yeung terms regulation by 'exclamation and excoriation'.[132] The aim is to influence consumer purchasing choices by naming and shaming retailers who treat their suppliers poorly. Communication regulation may also impact on investment decisions, and in recent years there has been growing concern amongst investors over a broad range of environmental and social sustainability issues.[133] This type of information-based regulation has proved extremely effective in regulating large reputation-sensitive corporations.[134] By highlighting the leaders and laggards to target audiences, leaders are motivated to continue to strive for excellence, while the fear of being labelled as laggards provides an incentive for underperformers to improve their compliance.[135]

In relation to enforcement of the Command element, as Abbot points out, in the absence of voluntary compliance, effective enforcement is vital if regulatory objectives are to be met.[136] There has been a long-running debate in the regulation literature as to whether the effectiveness of regulation is best served by taking a deterrence (punitive) or a cooperative (compliance) approach to enforcement.[137] A cooperative approach seeks to secure conformity by requiring some form of positive action on behalf of the regulatee, rather than that they refrain from doing something.[138] Enforcement, then, involves the regulator identifying a problem and responding to it by negotiating future compliance with the regulatee.[139] As Hawkins explains, 'recourse to the legal process is a matter of last resort, because the aim is to prevent harm, or repair damage, rather than to seek retribution'.[140] In contrast, a punitive approach is primarily concerned with punishing wrongdoing, and is accusatory and adversarial.[141] As such, the punitive approach assumes that regulatees are 'amoral calculators' and only comply 'when they are required to do so by law, and they believe that non-compliance will be detected and harshly punished.'[142]

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[131] ibid 96–103.
[132] Karen Yeung, Government by Publicity Management: Sunlight or spin? in ibid 100.
[133] Daniel C Esty and Quentin Karpilow, 'Harnessing Investor Interest in Sustainability: The Next Frontier in Environmental Information Regulation' (2019) 36 Yale Journal on Regulation 625, 630.
[134] Gunningham and Sinclair (n 83) 122.
[135] Karen Yeung, Government by Publicity Management: Sunlight or spin? in Morgan and Yeung (n 122) 101.
[136] Carolyn Abbot, *Enforcing Pollution Control Regulation: Strengthening Sanctions and Improving Deterrence* (Bloomsbury Academic 2009) 4.
[137] Neil Gunningham, 'Enforcement and Compliance Strategies' in Baldwin *et al* (eds) *The Oxford Handbook of Regulation* (Oxford, OUP 2010)120.
[138] Keith Hawkins, *Environment and Enforcement* (Clarendon Press 1984) 4.
[139] ibid.
[140] ibid.
[141] ibid.
[142] Neil Gunningham, 'Enforcement and Compliance Strategies' in Robert Baldwin, Martin Cave and Martin Lodge (eds) *The Oxford Handbook of Regulation* (Oxford, OUP, 2010) 122.

However, Ayres and Braithwaite have argued that enforcement should be neither solely punitive nor cooperative, but rather should respond to the behaviour of regulatees.[143] Their 'regulatory pyramid' proposes that effective enforcement strategies should be arranged hierarchically, 'with more cooperative strategies deployed first, and progressively more punitive strategies deployed only should cooperation fail'.[144]

2.4.2. The Voluntary Approach: The Courtauld Commitment

Returning to Morgan and Yeung's typology of regulatory instruments, the Courtauld Commitment is a form of consensus regulation.[145] The 'mechanism through which behaviour is influenced or constrained rests primarily on the consent of the participants'.[146] Its force is derived from social norms and consensus rather than legally binding rules.[147] In terms of enforcement, sanctions for violating behavioural norms are often limited to social disapproval or ostracism.[148]

Voluntary agreements have been used to address a wide range of issues, and in particular in relation to environmental problems.[149] In the environmental domain, such agreements usually take the form of unilateral commitments, negotiated agreements or public voluntary programmes.[150] Unilateral commitments are initiatives taken by individual businesses, or businesses collectively through trade associations, in the absence of government.[151] Negotiated agreements are bilateral agreements between industry and government. These are usually negotiated against the backdrop of threatened legislation to encourage industry to take environmental measures beyond current legal requirements.[152] Public voluntary programmes involve partnerships between government and the regulated industry. In their most common form, targets are set by regulatory agencies and individual businesses are invited to join.[153] The government usually offers some form of incentive, either recognition or, sometimes, regulatory relief, in exchange for compliance.[154]

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[143] Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (Oxford University Press 1992).
[144] ibid 378.
[145] Morgan and Yeung (n 122) 93.
[146] ibid 92.
[147] ibid 95.
[148] ibid.
[149] Gunningham and Sinclair (n 83) 134.
[150] ibid 97.; Also see Jonathan C Borck and Cary Coglianese, 'Voluntary Environmental Programs: Assessing Their Effectiveness' (2009) 34 Annual Review of Environment and Resources 305, 307.; Kathleen Segerson, 'Voluntary Approaches to Environmental Protection and Resource Management' (2013) 5 Annual Review of Resource Economics 161.
[151] Borck and Coglianese (n 150) 307.
[152] Gunningham and Sinclair (n 83) 97.
[153] ibid 101.
[154] Borck and Coglianese (n 150) 308.; Regulatory relief may include the waiver of site inspections for businesses who self-audit and report to the regulator on their compliance. Or a promise by government not to impose mandatory legislation. See Gunningham and Sinclair (n 83) 20.

Courtauld does not fit neatly into this typology. In some ways, it resembles a hybrid of all three types. At first glance, Courtauld appears to be a unilateral commitment, but it is facilitated by WRAP, which, although a registered charity, is also a delivery partner for Defra.[155] Defra also provides the majority of WRAP's funding, and so it is questionable just how far removed from the influence of government WRAP really is.[156] Like a negotiated agreement, there is the threat of legislation lurking in the background should insufficient progress be made voluntarily, and therefore industry is under some pressure to join the Commitment. The important point here is that, as with negotiated agreements, there is scope through WRAP for the government to influence how the problem of food waste is constructed and responded to by the signatories. In that respect, the Commitment aligns more with a public voluntary programme, with WRAP taking on a quasi-regulatory role.

WRAP engages with Courtauld's regulatees through working groups. The stated objective of these working groups is to identify priority food waste areas and design projects to develop and test best practice.[157] The IGD Roadmap is then used to increase the levels of engagement by food businesses outside the Commitment. The Roadmap's Target-Measure-Act (TMA) strategy[158] can be characterised as a type of management system (or 'management-based' regulation) that mandates a standardised approach to food waste prevention, including measurement and reporting.[159] TMA helps signatories develop reflexive management processes that generate information, which in turn helps signatories identify and reduce their waste. Although the TMA's overall approach is standardised, management-based regulation allows firms to develop their own processes and management systems to achieve regulatory goals.[160] This recognises that industry should be better positioned to understand cause-effect relationships and implement solutions than the government or regulators.[161] The flexibility of management-based regulation allows firms to develop tailored cost-effective solutions and therefore can be applied to a broad range of heterogeneous businesses.[162]

[155] WRAP is tasked by Defra to provide technical and financial support on waste reduction.
[156] Defra, 'Review of DEFRA Funding for WRAP (Waste and Resources Action Program) Summary Report of the Review and Responses to the Opportunity to Comment Document' (Department for Environment, Farming & Rural Affairs 2013).
[157] WRAP (n 61) 20.
[158] WRAP IGD, 'Food Waste Reduction Roadmap Toolkit' (Waste and Resources Action Programme 2018).
[159] On Management-based regulation see Neil Gunningham, 'Environment Law, Regulation and Governance: Shifting Architectures' (2009) 21 Journal of Environmental Law 179, 189. ; Also see Cary Coglianese and David Lazer, 'Management-Based Regulation: Prescribing Private Management to Achieve Public Goals' (2003) 37 Law & Society Review 691.
[160] Gunningham (n 159) 189.
[161] Julia Black, 'Decentring Regulation: Understanding the Role of Regulation and Self-Regulation in a "Post-Regulatory" World' (2001) 54 Current Legal Problems 103, 106.
[162] Gunningham (n 159) 189.

The Roadmap then encourages retailers and large food manufacturers to engage with their suppliers to implement TMA in a consistent way across the supply chain.[163] This attempts to harness the power and influence these actors can exert over their supply chains to improve their suppliers' environmental performance.[164] This fits within an understanding of regulation more broadly defined 'as any activity, by governmental actors or otherwise, which controls or influences the behaviour of others'.[165] As Bradshaw explains, 'the term "regulator" can thus be expanded to include traditionally-understood "private" actors'.[166] This extension of regulatory actors can be seen within the Courtauld Commitment with WRAP taking on a quasi-regulatory role in the place of government. The Roadmap then further engages retailers and large manufacturers to act as surrogate regulators. Accordingly, this expands the number of potential 'regulators' in the food waste space, enabling regulation to occur 'in many rooms'.[167] This is an example of what Black has referred to as decentred regulation, which recognises that 'the state does not and should not have a monopoly on the exercise of power and control'.[168] Solving complex problems requires implementing solutions collaboratively, and so regulation becomes a 'two-way, or three- or four-way process' between regulators and regulatees, rather than society having problems and government offering the solutions.[169] As Parker and Nielsen have pointed out, 'increasingly, industry, civil society, NGO's and trade associations are explicitly taking on regulatory roles to require standards of behaviour that go beyond compliance with the law, or that fill gaps in legal regulation'.[170]

Although the Courtauld Commitment is an example of consensus regulation, WRAP may also be able to deploy another form of regulatory instrument, Competition. The grant funding made available to WRAP to facilitate increased surplus food redistribution can be classified as a form of competition regulation. Competition techniques encompass a wide variety of tools, often referred to as economic instruments, including charges, taxes, subsidies and tradable permits.[171] Economic instruments are said to provide a financial incentive for pro-environmental behaviour while avoiding the costly (and often claimed to be inefficient) processes of information gathering, standard setting and enforcement associated with command and control regulation.[172] Subsidising food redistribution might help to ease tensions

[163] IGD (n 80) 18.
[164] Gunningham and Sinclair (n 83) 25.; Also see Carrie Bradshaw, 'Corporations, Responsibility and the Environment' (University College London 2013) 88.
[165] Bradshaw, 'Corporations, Responsibility and the Environment' (n 164) 88.
[166] ibid.
[167] Black (n 161) 104.
[168] ibid 112.
[169] ibid 109–110.
[170] Christine Parker and Vibeke Nielsen, 'The Challenge of Empirical Research on Business Compliance in Regulatory Capitalism' (2009) 5 Annual Review of Law and Social Science 45, 48–49.
[171] Morgan and Yeung (n 122) 85.
[172] ibid 86.

within the waste hierarchy by creating economic incentives to avoid edible surplus food from being utilised as feedstock for AD.

2.5. The Question of Regulatory Effectiveness

The previous sections have introduced two regimes with the potential to reduce food waste caused by overproduction and situated them within a taxonomy of regulatory interventions. However, the question of whether these regulatory regimes are sufficiently effective to make any meaningful impact on current levels of excess food production remains. To date, there has been very little academic attention paid to either how these regimes actually work on the ground or how effective they are. The purpose of this thesis is to address this gap in the literature. However, before commencing fieldwork, any researcher that seeks to examine the regulatory responses to a problem needs to be aware of the potential barriers to their effectiveness. Therefore, regardless of what the research might find, it was important to go into the field with knowledge of the potential weaknesses of both regulatory approaches. A review of existing regulatory theory and empirical research illustrates a number of potential limitations to both regulatory regimes. However, empirical research has also shown that compliance, or, beyond compliance, behaviour with regulatory objectives, is also subject to the influence of other external pressures, most notably the social licence to operate.[173]

This section begins by highlighting some of the possible constraining factors of the direct regulatory approach taken by the GCA. This is followed by an illustration of some of the potential weaknesses of the Courtauld Commitment's voluntary approach. The section concludes by discussing the possible impact of the social licence and how this might be subject to differing interpretations depending on the management styles of individual businesses.

2.5.1. The Limitations of Command and Control

As some regulatory scholars have suggested, the term 'command and control' has derogatory implications and has become a caricature of all that is wrong with regulation.[174] Traditional criticisms of command-and-control regulation point to three major limitations: first, instrument failure; that laws backed by sanctions are inappropriate and unsophisticated. Second, information failure; that government has insufficient knowledge to be able to identify the

[173] Neil Gunningham, Robert A Kagan and Dorothy Thornton, 'Social License and Environmental Protection: Why Businesses Go beyond Compliance' (2004) 29 Law & Social Inquiry 307.
[174] Jane Holder and Maria Lee, *Environmental Protection, Law and Policy: Text and Materials* (2nd edn, Cambridge University Press 2007) 352.

causes of problems, to design solutions that are appropriate, and to identify non-compliance. Finally, motivation failure; that those being regulated are insufficiently inclined to comply.[175]

Black's decentred understanding of regulation offers a somewhat different interpretation of the key failings of direct regulation.[176] In general terms, many of the limitations of direct regulation are related to issues of complexity, which includes 'both causal complexity and the complexity of interactions between actors'.[177] As Drysek points out, 'environmental problems by definition are found at the intersection of ecosystems and human social systems, thus doubly complex'.[178] The more complex the problem, the greater the number of potential, and often competing, solutions.[179]

Direct regulation is also limited by the fragmentation and construction of knowledge, often referred to as information asymmetry; the government is unlikely 'to know as much about the regulated industry, as industry does itself'.[180] Information is also 'socially constructed, there are no such things as "objective" social truths'.[181] What counts as compliance is often contested and becomes a subject of negotiation between the regulator and regulatees.[182] For powerful regulatees, 'legal rules are often seen as a raw material to be worked upon'.[183] This can lead to 'creative compliance', where 'the combination of specific legal rules and an emphasis on legal form and literalism can be used artificially, in a manipulative way to circumvent or undermine the purpose of the regulation'.[184]

A further limitation is the fragmentation of power and control. This recognises that a diverse range of actors are capable of exercising control over social actors, and non-legal regulatory systems may be as important as state-centred regulation.[185] The decentralised view recognises the autonomy of social actors. Autonomy means that regulatees' behaviour cannot be assumed to remain constant. Actors may react to regulation in unpredictable ways, and regulation may thus have unintended consequences.[186] Neither can any single actor dominate the regulatory process, 'as all actors can be restricted in reaching their own objectives, not just by limitations in their own knowledge, but also by the autonomy of others'.[187] Direct

[175] Black (n 161) 106.
[176] ibid.
[177] ibid.
[178] John S Dryzek, *The Politics of the Earth* (Third, Oxford University Press 2013) 9.
[179] ibid.
[180] Black (n 161) 107.
[181] ibid.
[182] See Bettina Lange, 'Compliance Construction in the Context of Environmental Regulation' (1999) 8 Social & Legal Studies 549.; Also see Hawkins, *Environment and Enforcement* (n 138).
[183] Lange (n 182) 551.
[184] Morgan and Yeung (n 122) 165.
[185] Black (n 161) 108.
[186] ibid.
[187] ibid 109.

regulation is also limited by complex interactions and interdependencies between social actors, and between social actors and government.[188]

Specifically in relation to enforcement, while the logic underpinning Ayres and Braithwaite's responsive regulation is sound, it is based on the assumption that, in practice, the regulator is able to switch easily between punitive and cooperative enforcement styles. However, empirical research has shown that this is not always the case.[189] A regulator's approach to enforcement can be inhibited or enabled by various macro, meso and micro factors.[190] Macro factors are those out of the regulator's control, and include shifts in the political and economic climate, recent catastrophes or scandals and the aggressiveness of pro-regulation interests and groups.[191] Meso level factors are what Kagan describes as the 'task environment', and include the seriousness of the regulated risk, the visibility of violations and the willingness of regulated enterprises to comply.[192] Micro factors include the legal design of the regime, for example, the legal powers granted to the regulator, the discretion to sanction regulatees and the rights of appeal of the regulatee.[193]

The above criticisms of command and control are perhaps overstated; command and control has achieved significant environmental improvements where cause-and-effect relationships are relatively straightforward.[194] Nevertheless, where regulatory problems are complex, the failings of command and control become more pronounced.[195] Therefore, it is important to understand if, and how, issues of complexity coupled with macro, meso and micro factors influence the approach taken by the GCA, and how this, in turn, affects the responses of regulatees and the overall impact of the regulatory regime on food waste. However, having set out some of the potential limits of direct regulation, the extent to which the GCA regulatory regime 'does, or does not, live up to this caricature is an empirical question'.[196]

2.5.2. The Limitations of Voluntary Commitments

To what extent voluntarism can be relied on to prevent food waste caused by overproduction is unclear, especially where this conflicts with the economic imperatives of retailers and large food manufacturers.[197] Voluntary commitments have their advantages and are said to be more

[188] ibid.
[189] For a discussion on the difficulties of moving between cooperative and punitive approaches see Vibeke Lehmann Nielsen and Christine Parker, 'Testing Responsive Regulation in Regulatory Enforcement' (2009) 3 Regulation & Governance 376.
[190] Robert A Kagan, 'Understanding Regulatory Enforcement' (1989) 11 Law & Policy.; Keith Hawkins, *Law as Last Resort: Prosecution Decision-Making in a Regulatory Agency* (Oxford University Press 2002).; Morgan and Yeung (n 122).; Nielsen and Parker (n 189).
[191] Kagan (n 190) 113.
[192] ibid.
[193] ibid.
[194] Gunningham (n 159) 183.
[195] Black (n 161) 106.
[196] ibid 105.
[197] Messner, Richards and Johnson (n 53).

'in tune' with social and economic norms. They provide more flexibility in the face of changing circumstances, allowing greater space for innovation while complying with self-regulatory rules.[198] As pointed out above, the food industry working collectively should be much better placed to solve this complex regulatory problem than the government.[199] However, a crucial problem for reducing overproduction, and the food waste it creates, is that excess levels of production and consumption are themselves deeply embedded social norms.[200] In terms of effectiveness, the literature on voluntary commitments provides cause for concern.[201] The expansion of regulatory actors and the harnessing of industry expertise does not necessarily overcome all the limitations of direct regulation; getting regulatees to comply with regulatory objectives may still be problematic. Despite the rhetoric, empirical research has shown the effectiveness of voluntary agreements to be rather limited.[202] Their impact is often overstated, with benefits limited to softer spill-over effects such as information diffusion and raised awareness.[203]

Both theory and the existing empirical evidence suggest that the effectiveness and efficiency of voluntary agreements depend to a great extent on programme design.[204] Direct regulation or taxation allows regulators to impose costs on regulatees, making them worse off than they would have been without the policy.[205] In contrast, under a voluntary agreement, the regulatee, at least in theory, has the option not to participate.[206] In terms of effectiveness, as Gunningham and Sinclair note, the term voluntary itself may be somewhat of a misnomer, 'in that, *effective* initiatives are rarely, if ever, purely voluntary in nature'.[207] Participating firms are usually under some form of pressure to join, be it from broader expectations of civil society in general (and NGOs in particular), legislative threats from government or positive incentives such as tax relief or subsidies.[208]

As such, the design of the commitment plays a key role in strengthening incentives for both participation and compliance by determining the extent to which signatories can be held to

[198] Ian Bartle, Regulatory approaches to climate change mitigation David Levi-Faur (eds) Handbook on the Politics of Regulation (Cheltenham, Edward Elgar, 2013) 636.
[199] Julia Black, 'Decentring Regulation: Understanding the Role of Regulation and Self-Regulation in a "Post-Regulatory" World' (2001) 54 Current Legal Problems 103, 107.
[200] Bartle (n 180) 636.
[201] Jonathan C Borck and Cary Coglianese, 'Voluntary Environmental Programs: Assessing Their Effectiveness' (2009) 34 Annual Review of Environment and Resources 305.; Andrew A King and Michael J Lenox, 'Industry Self-Regulation without Sanctions: The Chemical Industry's Responsible Care Program' (2000) 43 The Academy of Management Journal 698.; Robert Innes and Abdoul G Sam, 'Voluntary Pollution Reductions and the Enforcement of Environmental Law: An Empirical Study of the 33/50 Program' (2008) 51 The Journal of Law & Economics 271.
[202] Borck and Coglianese (n 201).
[203] Gunningham (n 159) 187.
[204] Segerson (n 150) 166.; Gunningham and Sinclair (n 83).
[205] Segerson (n 150) 163.
[206] ibid.
[207] Gunningham and Sinclair (n 83) 97.
[208] ibid.

account for their actions and commitments. A well-designed voluntary agreement can be self-enforcing; however, such a result is far from guaranteed.[209] The regulation literature points to a number of interrelated design features that have proved important in determining effectiveness. Two key interrelated factors are participatory incentives and a mechanism for reducing free riding.[210]

Any Commitment must include sufficiently strong incentives for signatories, based on both the benefits of participation as well as the costs of the associated obligations.[211] What constitutes a benefit may be broadly defined. Benefits might include the sharing of technical information that eliminates wasteful practices, thereby increasing profitability as well as promoting efficient resource use.[212] The existence of a regulatory threat (a tax or other form of more costly regulation) may also provide an incentive to induce participation.[213] However, such a threat must be 'credible, i.e., it will be imposed if the environmental target is not met voluntarily'.[214]

Effective voluntary commitments also require a mechanism for dealing with free riding. Where collective action is required to achieve environmental objectives, this creates two competing challenges: first, making sure the commitment attracts enough participants to actually have the desired overall impact; and second, making sure that the signatories they do attract live up to the Commitment's standards.[215] While attracting enough signatories to have an effect is key, the latter challenge is also crucial, as once businesses join they may enjoy the reputational and other benefits whether they fulfil their obligations or not.[216] This collective action, or free-riding, problem has been highlighted as one of the biggest challenges in relation to the effectiveness of voluntary agreements.[217]

Further design features that enhance the effectiveness of voluntary commitments include clearly defined and transparent targets, credible and reliable monitoring and third-party participation.[218] If these design features are incorporated within the Courtauld Commitment, and are sufficiently robust, then this voluntary approach may prove effective. Nevertheless,

[209] Segerson (n 150) 173.
[210] Gunningham and Sinclair (n 83) 108.; Segerson (n 150) 166–168.; Also see Organisation for Economic Co-operation and Development, 'Voluntary Approaches for Environmental Policy: An Assessment' (OECD 1999) 134–135.; Cameron Holley, Neil Gunningham and Clifford Shearing, *The New Environmental Governance* (Earthscan 2012).
[211] Segerson (n 150) 175.
[212] ibid 167.
[213] Gunningham and Sinclair (n 83) 108.
[214] Segerson (n 150) 168.
[215] Borck and Coglianese (n 150) 309.
[216] Aseem Prakash and Matthew Potoski, *The Voluntary Environmentalist: Green Clubs, ISO 14001, and Voluntary Environmental Regulations* (CUP 2006).
[217] Gunningham and Sinclair (n 83) 150.
[218] ibid 108.; Segerson (n 150) 166–168.; Also see Organisation for Economic Co-operation and Development (n 210) 134–135.; Holley, Gunningham and Shearing (n 210).

how these mechanisms are perceived by regulatees, and whether they in fact provide strong enough incentives for action, is again an empirical question.

2.5.3. Compliance Motivations and the Social Licence to Operate

It is important to point out that, notwithstanding the recognised challenges of achieving regulatory effectiveness, regulatees are likely to vary in the extent to which they fulfil regulatory objectives. Such variation will be accounted for by dynamics and factors that are internal to regulatee organisations.

Research has shown that businesses comply with regulation for a variety of reasons.[219] The compliance literature suggests that, while some businesses are amoral calculators, complying with rules only because they are motivated by the fear of detection and punishment, others are motivated by a civic duty to do the right thing.[220] Therefore, some corporate responses to regulation will occur independently of enforcement capabilities. This suggests that, at least for some corporations, 'the style of regulatory implementation is less of a constraint on business behaviour than previously envisaged'.[221] Businesses may also take measures beyond compliance with legal rules because of other social pressures.[222] Understanding variation in compliance requires exploration of the ways regulatory, 'economic and social pressures on business are interpreted, and acted upon'.[223]

The social licence to operate is one factor that affects how corporations respond to environmental problems.[224] How social pressures are perceived by retailers and food manufacturers contributes to the variation in how (if at all) food businesses address the problem of overproduction. As with many corporations, retailers and large food manufacturers are reputationally sensitive. Poor environmental performance, whether lawful or not, may bring unwanted attention from NGOs and other stakeholders. This can potentially affect consumer choice, undermine share value, prejudice standing with the government and threaten investment.[225] Therefore, the social licence has economic impact, and compliance, or even performance beyond compliance, builds 'reputation capital', essential for businesses that want to be perceived by customers, shareholders, investors and other stakeholders as environmentally friendly.[226] Nevertheless, reputation capital is not always immediately

[219] Søren C Winter and Peter J May, 'Motivation for Compliance with Environmental Regulations' (2001) 20 Journal of Policy Analysis and Management 675.
[220] ibid 676.
[221] Keith Hawkins, 'Enforcing Regulation: Robert Kagan's Contribution—And Some Questions' (2013) 38 Law & Social Inquiry 950, 962.
[222] Gunningham, Kagan and Thornton (n 2).
[223] Hawkins, 'Enforcing Regulation' (n 221) 959.
[224] Gunningham, Kagan and Thornton (n 2).
[225] Gunningham and Sinclair (n 83) 94.; Gunningham, Kagan and Thornton (n 2).
[226] Borck and Coglianese (n 201) 313.

quantifiable in traditional economic terms.[227] Benefits that are difficult to quantify include: 'development approvals; preferred access to prospective markets and products; the ear of government; the tolerance of local communities; a reduced risk of being targeted by NGOs; and the benefit of the doubt when something goes wrong'.[228]

This means that, for some businesses, behaviour will be predicated on an economic calculus much broader and more sensitive to cultural and political factors than the narrow focus on maximising profit that the 'amoral calculator' model suggests.[229] Nevertheless, the strength and terms of the social licence may vary depending on the location and size of the business and the extent to which it is reputation sensitive. The terms of the social licence are often ambiguous or uncertain, and this uncertainty gives rise to 'variable interpretation and action on the part of corporate management'.[230] Variation in the measures different businesses take to prevent food waste may also depend on their economic resources. While the economic justifications for environmental action based on the social licence may be broadly defined, corporate action is also constrained by economic factors, the 'economic licence'.[231] The economic licence acts as a brake on costly environmental expenditure, working in tension with social licence demands for increased spending.[232] For some firms, the economic licence will inhibit investment in environmental measures that do not improve productivity or profitability.[233] The extent to which businesses take measures beyond those required by law depends not only on how the firm interprets the social pressures it faces but also the economic resources it has at its disposal and how it calculates the costs and benefits of different responses.[234]

Empirical research has shown that how businesses respond to regulatory, social and economic pressures often depends on the management style of the company.[235] Management style is described as the way corporate managers express attitudes towards environmental problems, the environmentally-relevant actions and implementation efforts taken by them and their explanations for those actions.[236] Understanding the significance of different management styles is important, because they mean businesses are likely to respond differently to the problem of food waste despite similar regulatory, social and economic pressures.[237] Some commentators claim management style is a more powerful predictor of

[227] Gunningham, Kagan and Thornton (n 173) 320.
[228] Neil Gunningham and Robert A Kagan, 'Regulation and Business Behavior Special Issue on Regulation and Business Behavior' (2005) 27 Law & Policy 213, 321.
[229] Hawkins, 'Enforcing Regulation' (n 221) 962.
[230] Gunningham, Kagan and Thornton (n 173) 325.
[231] ibid 329.
[232] ibid.
[233] ibid 335.
[234] Hawkins, 'Enforcing Regulation' (n 221) 961.
[235] Gunningham, Kagan and Thornton (n 2).
[236] ibid 97.
[237] ibid 140–145.

environmental performance than regulatory regimes or corporate wealth.[238] This is because management style filters perceptions of regulatory, social and economic pressures and affects the way these external pressures are translated into company-level environmental measures.[239]

The extent to which businesses comply with the underlying objectives of regulation may then, to some extent, be determined by individual corporations and the managers within them, and how they interpret the external regulatory, social and economic pressures to address overproduction. However, firms, and particularly large corporations, as with any regulated community, are not monoliths, but rather complex organisations with multiple objectives and 'multiple sub-units, with multiple selves'.[240] There is likely to be tension between different managers representing different business functions, and therefore, what management style emerges is, in turn, determined by internal factors and intra-company politics.[241]

2.6. Conclusion

This chapter has introduced two regulatory responses to the problem of food waste in England and Wales, the Courtauld Commitment and the GSCOP, policed by the GCA. These responses represent quite different modes of regulation. As has been illustrated above, regulatory theory and existing empirical research point to a number of potential barriers that might inhibit their effectiveness. Both regimes are likely to be constrained by complex and interrelated factors including issues of design, information asymmetry, interdependencies between actors, issues of enforcement and participatory incentives. However, this does not necessarily mean that regulatees will not take action to reduce overproduction; compliance behaviours are also complex. Research has highlighted that where management styles are more in tune with regulatory objectives, some regulatees may be willing to take measures that are difficult to justify based on traditional analyses of profitability. Thus, because management styles differ, there is likely to be variation between regulatees in terms of compliance with the GSCOP and the types of measures signatories take (or do not take) to reduce food waste as participants in the Courtauld Commitment.

Against this backdrop, the purpose of this thesis is to understand, through the lens of regulatees, what factors are driving measures to reduce food waste, and, importantly, whether these measures are likely to impact on the overproduction of food. Understanding what

[238] Hawkins, 'Enforcing Regulation' (n 221) 961.
[239] ibid.
[240] Black (n 199) 124.; Ayres and Braithwaite (n 143) 31.; Also see Bridget M Hutter, *Regulation And Risk: Occupational Health and Safety on the Railways* (Oxford University Press 2001) 315.
[241] Aseem Prakash, *Greening the Firm: The Politics of Corporate Environmentalism* (CUP 2000).; ; Jennifer Howard-Grenville, Jennifer Nash and Cary Coglianese, 'Constructing the License to Operate: Internal Factors and Their Influence on Corporate Environmental Decisions' (2008) 30 Law & Policy 73.

factors, pressures or considerations influence how regulatees respond to regulation will highlight some of the key barriers to the effective regulation of food waste caused by retail-driven overproduction. The following chapter sets out the specific research questions this thesis has addressed and the methodology deployed.

Chapter 3 – Methodology

3.1. Research Aims and Question

The aim of this thesis was to understand what impact regulatory efforts to prevent food waste are having on the overproduction of food. As argued in chapter 1, there is a strong cause-effect relationship between the overproduction of food and the levels of food waste experienced within both retail supply chains and consumer households. As such, there is a need to understand what the possible barriers to its effective regulation are. Therefore, the overarching question this thesis addresses is:

- What are the challenges for the regulation of food waste caused by the overproduction of food in England?

In order to address this question, this thesis endeavours to understand the impact of both the GCA regulatory regime and the Courtauld Commitment. As illustrated above, these are two quite distinct regulatory approaches that in turn attract quite different challenges. Therefore, each regime raises some different analytical questions. Specifically in relation to the GCA, the most important questions this thesis sought to answer were:

- What impact has the GCA regulatory regime had on overproduction and the associated food waste experienced by retail suppliers on the ground?
- What impact has the GCA's communication had on the behaviour of regulated retailers?

In relation to the Courtauld Commitment, understanding the challenges involved with reducing food waste caused by overproduction using a voluntary approach is more complex. Preventing food from being wasted can to some extent be accomplished without tackling the problem of overproduction. As shown above, some level of food waste reduction can also be achieved through producing food more efficiently as well as redistributing surplus to people in need or diverting it to feed animals. However, focusing on increased efficiency, or solutions that manage surplus, rather than question why that surplus occurs in the first place, is described by some commentators as weak prevention.[1] Such measures are unlikely to contribute to the long-term sustainability of the food system as effectively as reducing levels of overproduction.[2] Therefore, understanding the challenges of regulating food waste caused by overproduction require us to first understand:

[1] Marie Mourad, 'Recycling, Recovering and Preventing "Food Waste": Competing Solutions for Food Systems Sustainability in the United States and France' (2016) 126 Journal of Cleaner Production 461, 463.
[2] ibid 467.

- What types of measures (if any) have been taken voluntarily by regulatees to prevent food waste?
- What factors, pressures or considerations influence whether and how regulatees respond to regulatory efforts to prevent food waste?
- How do these regulatory measures and responses impact on levels of food waste caused by the overproduction of food?

3.2. Research Methods

This research uses qualitative methods. The primary source of empirical data was semi-structured interviews. However, as is common in most qualitative research projects, the starting point was an analysis of the academic and grey literature.[3] This analysis gave meaning to the topic of assessment and helped inform the research questions as well as those put to interview subjects. The research also included some monitoring of in-store supermarket food waste prevention measures as an additional form of triangulation. A number of major retailers were visited to assess what measures could be observed: for example, whether volume-based food promotions were being offered or 'wonky' vegetables sold.

Using qualitative methods has many potential strengths, including the richness and holism of the data that 'have strong potential for revealing complexity; and "Thick descriptions" that are vivid, are nested in a real context, and have a ring of truth that has a strong impact on the reader'.[4] Moreover, as Miles and others explain:

> [T]he fact that such data are typically collected over a sustained period makes them powerful for studying any process … we can go far beyond snapshots of "what?" or "how many?" to just how and why things happen as they do—and even assess causation as it actually plays out in a particular setting.[5]

In addition, qualitative studies are inherently flexible; the collection of data and methods can be varied as the research proceeds. This gives 'further confidence that we really understand what is going on'.[6]

Nevertheless, problems with assessing the quality of qualitative research arise from claims around reliability, validity and generalisation.[7] Quantitative research typically uses large sample sizes and relatively straightforward approaches to data collection that mean other

[3] By grey literature I refer to reports from regulators and other government publications.
[4] Matthew Miles, Michael Huberman and Jonny Saldana, *Qualitative Data Analysis: A Methods Sourcebook* (3rd edn, SAGE Publications, Ltd 2014) 30.
[5] ibid.
[6] ibid.
[7] See Alan Bryman, *Social Research Methods* (5th Edn, Oxford University Press 2016) 389.

researchers could likely replicate the findings. This provides strong grounds for making generalisations beyond the specific population involved in the study itself.[8] Nevertheless, quantitative research also has its limitations; crucially, 'the failure of its practitioners to address adequately the issue of 'meaning'.[9] In contrast, qualitative researchers usually work with smaller samples nested in their context and studied in-depth, as is the case in this study.[10] This is clearly problematic in terms of generalisation, and this is acknowledged as a limitation of this research. However, taking a qualitative approach was important because this is the first research project situated in the context of food waste prevention that has attempted to investigate regulatory issues across the whole supply. The quality of this research is, thus, based on a process that engages with the complexity of participants' lived experiences and thereby provides context-rich data that helps explain the regulatory challenges. An intention of this research is to open up this issue, and although representativeness cannot be claimed, the findings are suggestive of the problems involved in regulating food waste caused by the overproduction of food. Therefore, this research lays the foundations for further work in this area.

Initially, this research aimed to understand the difficulties of addressing food waste caused by overproduction through participant observation of WRAP's work with regulatees within the Courtauld Commitment. As Hall and others state, many questions about how organisational decision-making, and regulatory decision-making in particular, works can only be pursued by looking at the process from the inside.[11] Participant observation facilitates the gathering of in-depth data to uncover how relationships between the events, social conditions and actors shape regulation, and how participants' perceptions and social context inform the meanings attributed to regulation.[12] However, access to observe the workings of the Commitment was denied by WRAP. This necessitated a shift in focus from understanding the ability of the regulators to address the problem of overproduction to viewing the constraints of these regulatory regimes primarily through the lens of regulatees and other key stakeholders. In practical terms, changing from participant observation to interviews was probably a blessing in disguise with the onset of the pandemic occurring a month after commencing fieldwork. This is not to say that Covid-19 did not cause disruption to fieldwork, the difficulties of which are discussed below. Nevertheless, there are several advantages to using interviews, as opposed to participant observation, as the primary method of data collection.

[8] ibid 176.
[9] Miles, Huberman and Saldana (n 4) 30.; Bryman (n 7) 186.
[10] Miles, Huberman and Saldana (n 4) 46.
[11] Clare Hall, Colin Scott and Christopher Hood, *Telecommunications Regulation: Culture, Chaos and Interdependence inside the Regulatory Process* (Routledge 2000) 9.
[12] Kathryn Henne, 'Multi-Sited Fieldwork in Regulatory Studies', *Regulatory Theory: Foundations and Applications* (Peter Drahos eds, Australian National University Press 2017) 99–100.

3.2.1. Interviews as a Method in Sociolegal Research

Interviews are a tried and tested method for conducting sociolegal research; as Barbour states, 'One-to-one semi-structured interviews are possibly the most commonly used qualitative method and have become almost the "gold standard" approach, against which other data are frequently compared and found wanting'.[13] Interviews offer a number of advantages compared with participant observation; they are less intrusive and allow access to a much wider variety of people and situations than can normally be achieved through participant observation.[14] As McBarnet has pointed out, one of the strengths of interviews is:

> [T]he ability to tailor questions to small but potentially important differences among research subjects and to probe interesting avenues that are discovered along the way. Interviewing also allows one to discover worlds that may be forever closed to direct observation, allowing people to report their perspectives and describe their behaviour.[15]

There is a long history of using interview-based research to understand how large corporations and other organisations respond to both legal and non-legal regulation, including 'what motivations, attitudes, and perceptions regulatees have toward regulation, regulators and compliance; what actions they take in response to regulation; and to what extent they take responsibility for their own self-regulation and compliance'.[16] Specifically in the field of environmental regulation, interviews have played a key role in many important research projects, including, for example, Neil Gunningham, Robert Kagan and Dorothy Thornton's seminal work *Shades of Green: Business, Regulation and Environment*;[17] Gunningham and Darren Sinclair's *Leaders and Laggards: Next-Generation Environmental Regulation*;[18] and, in relation to voluntary environmental initiatives, Assem Prakash and Matthew Potoski's *The Voluntary Environmentalists: Green Clubs, ISO 14001, and Voluntary Environmental*

[13] Rosaline Barbour, *Introducing Qualitative Research* (SAGE Publications, Ltd 2008) 19 <http://methods.sagepub.com/book/introducing-qualitative-research> accessed 6 October 2021.
[14] Bryman (n 7) 496.
[15] See interview with Doreen McBarnet in Simon Halliday and Patrick Schmidt, *Conducting Law and Society Research: Reflections on Methods and Practices* (CUP 2009) 152.
[16] Christine Parker and Vibeke Nielsen, 'The Challenge of Empirical Research on Business Compliance in Regulatory Capitalism' (2009) 5 Annual Review of Law and Social Science 45, 59.; See for example: Hazel Genn, 'Business Responses to the Regulation of Health and Safety in England Business Adaption to Social Regulation' (1993) 15 Law & Policy 219.; Fiona Haines, *Corporate Regulation: Beyond 'Punish or Persuade'* (Oxford: Clarendon Press 1997).; Bridget M Hutter, *Regulation And Risk: Occupational Health and Safety on the Railways* (Oxford University Press 2001).; Joseph Rees, *Reforming the Workplace: A Study of Self-Regulation in Occupational Safety* (University of Philadelphia Press 1988).; Susan Sibley, Ruthanne Huising and Salo Vinocur Coslovsky, 'The "Sociological Citizen" Relational Interdependence in Law and Organizations' (2009) 59 L'Année sociologique (1940/1948-) 201.;
[17] Neil Gunningham, Robert A Kagan and Dorothy Thornton, *Shades of Green: Business, Regulation, and Environment* (Stanford University Press 2003).
[18] Neil Gunningham and Darren Sinclair, *Leaders and Laggards: Next-Generation Environmental Regulation* (Greenleaf Publishing 2002).

Regulations.[19] Therefore, there is nothing new in the approach that this research takes to understand the challenges of regulating food waste caused by the overproduction of food.

3.3. Research Design

As Hawkins points out, 'in the interests of transparency, it is essential to disclose, as fully as possible, how the research was designed, how access to research subjects was gained, and how data were generated, collected, and recorded'.[20] This section sets out the planned research design, i.e. the rational for selecting research participants, both in terms of the type of interview subject (regulator, regulatee or third-party stakeholder) and the specific type of business or organisation that was targeted. The following section then explains the implementation of that plan and the challenges faced in conducting fieldwork during the Covid-19 pandemic.

3.3.1. Selection of Interview Subjects

The selection of interview subjects was based on what Bryman describes as a purposive approach, where participants are selected not randomly but rather strategically, so that the sample is relevant to the research questions being posed.[21] Interview subjects were chosen to ensure that the variety of responses between regulatees was captured, but also differentiated in key characteristics relevant to the research questions.[22] For capturing data in relation to the impact of regulation, interviews with regulators, employees of regulated businesses and third-party stakeholders are a rich source of information for the researcher.[23] The research sought to interview both the GCA and WRAP as the two primary regulators in the food waste space. Unfortunately, the GCA declined to be interviewed. Nevertheless, two interviews took place with WRAP in relation to the Courtauld Commitment, and an interview was also conducted with IGD, which, as will be explained further in Chapter 5, now also appear to be playing quite an influential role within the voluntary food waste regulatory regime.

3.3.1.1. Regulated Retailers

Regarding retail interview subjects, identifying potential businesses was relatively straightforward. All the major UK retailers are regulatees of the GSCOP and signatories of the Courtauld Commitment. Therefore, interviews were sought with a selection of retailers concerning both regimes. As stated in the previous chapter, regulatees' responses to

[19] Aseem Prakash and Matthew Potoski, *The Voluntary Environmentalist: Green Clubs, ISO 14001, and Voluntary Environmental Regulations* (CUP 2006).
[20] Keith Hawkins, *Law as Last Resort: Prosecution Decision-Making in a Regulatory Agency* (Oxford University Press 2002) 445.
[21] Bryman (n 7) 418.
[22] ibid.
[23] Parker and Nielsen (n 16).

regulation vary, and this variation can be influenced by a variety of factors. Within the UK food retailing market, there are significant differences in the market share and economic models of the different retailers. The various supermarkets also target distinct demographics. The discount supermarkets – Aldi and Lidl – not only have different economic models but also may be influenced by organisational cultures originating from outside the UK. Therefore, an important design goal was to try and ensure that this variation was captured within the sample of retail interview subjects. The aim was to include representatives from the premium-price supermarkets (Waitrose and Marks & Spencer), the big four (Tesco, Sainsburys, Asda and Morrisons) and the discounters (Aldi and Lidl). However, identifying who in a corporation is the best person to target for interviews can be problematic.[24] Helpfully, at least in relation to the GSCOP, the person responsible for Code compliance and their contact details are made publicly available by the GCA.[25]

The benefit of talking to retail compliance professionals is that they are embedded within the organisation and work with regulators and the business to decipher regulatory requirements. In this role, they must 'rustle and corral regulators, members of their own organisations [and the targets of the regulation] to get somewhere close to compliance'.[26] Compliance professionals are responsible for operationalising regulations and company policies to form standard operating procedures and rules.[27] These procedures are usually supported by training sessions, handbooks and checklists, and their implementation is the subject of internal auditing processes.[28] As such, compliance managers are in the centre of intra-firm political battles over the costs and benefits of food waste prevention measures and compliance with them. Therefore, to understand what compliance means to retailers, and the challenges faced in implementing measures, the compliance department is a potential source of considerable rich information. However, while the term 'compliance' is relevant to the GCA regulatory regime, the fact that the Courtauld Commitment is a voluntary initiative, rather than legal regulation, brings into question the extent to which retailers view food waste reduction measures as a compliance concern rather than a CSR opportunity. Therefore, in terms of design, ideally, the research sought to interview both retail Code Compliance officers and Corporate Sustainability (or Responsible Sourcing) managers at each of the retailers.

[24] See interview with Doreen McBarnet in Halliday and Schmidt (n 15) 155–156.
[25] See 'Code Compliance Officer Contact Details and Commitment to Confidentiality' (*GOV.UK*) <https://www.gov.uk/government/publications/code-compliance-officer-contact-details/code-compliance-officer-contact-details> accessed 2 October 2018.
[26] Ruthanne Huising and Susan S Silbey, 'From Nudge to Culture and Back Again: Coalface Governance in the Regulated Organization' (2018) 14 Annual Review of Law and Social Science 91, 20.
[27] ibid.
[28] ibid 19.

3.3.1.2. The Retail Supply Chain

For understanding the impact of regulation, and specifically the challenges of regulating food waste caused by the overproduction of food, perhaps the richest source of data is those who are the supposed beneficiaries of the regulation.[29] However, deciding which food producers (food manufacturers and primary producers) to target was a more complex task.

In the GCA regulatory regime, both primary producers and food manufacturers are beneficiaries of the GSCOP. Therefore, both are a source of important information on the impact this regulation has had on patterns of production and the volumes of food waste produced in their operations. In terms of the Courtauld Commitment, the boundary between who are the regulatees and who are the beneficiaries of regulation is somewhat blurred. Some interview subjects must be regarded as both regulatees and regulators. While WRAP facilitates the Commitment, and is therefore the primary regulator, the voluntary approach recognises the power and influence retailers (and some large manufacturers) have over their supply chains, and as such the potential surrogate regulatory role they may play.[30] This is particularly evident in WRAP and IGD's Food Waste Reduction Roadmap, which requires retailers and large food businesses to work in partnership with smaller suppliers to put in place Whole Chain Food Waste Reduction plans. Therefore, to understand the impact of this regulatory initiative, it was important to capture a range of different-sized food producers across the industry, including both those who were signatories to Courtauld and the IGD Roadmap and those who were not.

3.3.1.2.1. Large Food Manufacturers

Many food manufacturers are also multinational corporations that may be larger and more powerful than some of the regulated retailers. These corporations also have a significant influence on volumes of food waste, both in primary production and at the consumer level. Therefore, it was important to understand what food waste prevention measures they are taking within their supply chains as well as those that will have an impact on consumer waste. However, food manufacturers are also beneficiaries of the GSCOP, and therefore provided important information on the impact this regulation has had on volumes of food waste produced in their operations. Because many of these businesses supply more than one retailer, this provided the opportunity to make comparisons between them.

As with retailers, branded food manufacturers are reputation sensitive; they are also subject to external social pressures, as well as regulatory pressure as signatories of the Courtauld Commitment. It was important here to consider location in the research design, as, unlike

[29] Parker and Nielsen (n 16) 59.
[30] See, for example, Gunningham and Sinclair (n 18).

retailers who have national coverage, the operations of large food manufacturers often occur in distinct geographical locations. This potentially had bearing on the type of social pressures to which the manufacturers are subject. Retail own-brand food manufacturers may be less reputationally sensitive, as consumers are likely to be less aware of who actually produce these products. Therefore, it was important to include both branded and retail own-brand food manufacturers in the research. It was also important to include food manufacturers who are not Courtauld signatories to understand whether social pressures, in the absence of regulation, created any variation in the types of measures taken to reduce food waste, particularly measures that are difficult to square with narrowly defined economic justifications.

3.3.1.2.2. Primary Producers

As highlighted in Chapter 1, food waste on farms is particularly problematic.[31] Although individually the food waste they create may be relatively small, collectively their impact is likely to be substantial.[32] Therefore, to understand the impact of and challenges faced by regulation, primary producers are an extremely important source of data. In theory, these businesses should see reductions in food waste as a result of either or both of these regulatory regimes. However, in terms of understanding the impact of GCA regulation, it is important to point out that the GSCOP only regulates contractual relationships between retailers and their direct suppliers. While this likely covers the vast majority of food manufacturers, most primary producers do not supply retailers directly and are not protected. While this limited the pool of potential primary producers who could provide data on their experiences in terms of the impact of GCA regulation on their businesses, interviewing farmers who supplied retailers indirectly offered the opportunity for comparison. Therefore, the research sought to recruit interview subjects who supplied retailers both directly and indirectly, whether through packhouses or producer organisations. This also provided the opportunity to investigate the possible implications of business size and power relations between retailers and their suppliers.

In terms of personnel interviewed, no particular job role was specifically targeted. However, who responded to requests for interviews was often determined by the size of the business. With the larger producers, interviews tended to be conducted with a corporate sustainability professional, at times accompanied by a senior manager, whereas with the smaller producers interviews were conducted mainly with the business owner.

[31] Bojana Bajzelj, William McManus and Andrew Parry, 'Food Waste in Primary Production in the UK' (WRAP 2019) Technical Report.
[32] Gunningham and Sinclair (n 18) 41.

3.3.1.3. Factors Determining Choice of Individual Businesses

For supply chain actors, the final criterion for recruiting interview subjects was the type of industry sector the business operated in. In line with the purposive approach, the main focus was on sectors where food waste has been identified in the literature as problematic.[33] 'Problematic' here means that the sector experiences high levels of food waste, for example, fruit and vegetable production, ready meals and bakery products, or where waste in that sector has significant environmental impact, for example, meat and dairy production.[34] In addition to focusing on key industry sectors, some businesses were targeted specifically because they were referred to in reports by WRAP.[35] This included specific companies cited as achieving food waste reductions as a result of participation in the Courtauld Commitment or IGD Roadmap.[36]

3.3.1.4. Third-Party Stakeholders

As Parker and Nielson have pointed out, another source of data is third-party stakeholders who might have specialised knowledge concerning the behaviour of regulated businesses.[37] Within the food waste regulatory space there are a number of important actors including food redistribution charities, NGOs and trade associations.

Interviews were conducted with both charitable and for-profit redistribution organisations. Food redistributors are, in effect, beneficiaries of Courtauld (and also signatories), but also exert pressure on food manufacturers to redistribute surplus. Fareshare, the UK's largest charitable redistributor, has played a key role in raising the political profile of redistribution, and as such has had an influence on UK food waste policy. Because redistributors work with retailers, food manufacturers and primary producers, they provided another valuable source of data, not only regarding surplus volumes being produced but also in offering alternative perspectives on the reasons why surplus product occurs and is sometimes subsequently wasted. In fact, redistributors are uniquely well placed to offer insight into the challenges caused by overproduction because their existence is predicated on it.

It was also important to interview food waste NGOs and activists, who are another source of external pressure on food businesses. The food waste NGO Feedback has worked with some

[33] See, for example, Julian Parfitt, Mark Barthel and Sarah Macnaughton, 'Food Waste within Food Supply Chains: Quantification and Potential for Change to 2050' (2010) 365 Philosophical Transactions of the Royal Society B: Biological Sciences 3065, 3074–3076.; Also Carlos Mena, B Adenso-Diaz and Oznur Yurt, 'The Causes of Food Waste in the Supplier–Retailer Interface: Evidences from the UK and Spain' (2011) 55 Resources, Conservation and Recycling 648.
[34] Parfitt, Barthel and Macnaughton (n 33) 3074–3076.
[35] For example, Courtauld and IGD progress reports, which indicated that a particular company was a member of a Working Group.
[36] See, for example, IGD WRAP, 'The Food Waste Reduction Roadmap Progress Report 2020' (Waste and Resources Action Programme 2020) BCP001-GEN 21 <https://wrap.org.uk/sites/default/files/2020-10/Food-Waste-Reduction-Roadmap-Progress-Report-2020.pdf>.
[37] Parker and Nielsen (n 16) 59–60.

of the UK's leading retailers and has also done some interesting research in the food waste space, including on the impact of unfair trading practices on the food waste levels of UK and international farmers.[38] Interviewing food waste campaigners therefore offered further data on how external pressures were applied to food businesses and how businesses responded. The final source of third-party data was the Food and Drink Federation (FDF), who represent the interests of food manufacturers. The FDF is itself a signatory of Courtauld and also runs a number of sustainability initiatives that it encourages its members to participate in.

3.3.2. Sample Size and Approach to Fieldwork

In terms of sample size, the initial target was to conduct 52 interviews, with the make-up of the sample as follows: 12 retailers, 10 large food manufacturers, 20 smaller food manufacturers and primary producers and 10 third-party stakeholders.

In terms of the retail supply chain, the plan was to interview primary producers first, followed by manufacturers, before moving on to retailers and regulators. The logic behind this was twofold: first, so that the interview questions could be adapted, if necessary, to take account of any unexpected findings in earlier interviews; second, as Macaulay has pointed out, interview subjects can be used as informants, and the information obtained through primary producers and manufacturers was used to put testing questions to retailers and regulators.[39] Gathering data from different points in the supply chain also provided a source of triangulation in that the purported responses to regulation by retailers could be compared with what primary producers and manufacturers indicated was actually happening on the ground. Although best efforts were made to adhere to the plan, slow progress in the early stages of fieldwork due to Covid-19 restrictions made this difficult and compromises had to be made, as discussed in more detail in the following section.

3.4. From Design to Implementation: The Messy Process of Fieldwork

The fact that conducting empirical research is a far messier process than some of the research methods textbooks might lead us to believe has been pointed out by some regulatory scholars.[40] Therefore, some disruption to the fieldwork plan was anticipated. In that regard, 2020 did not disappoint, and the pandemic certainly made fieldwork a challenge. However, there were also some upsides; the following section explains how the fieldwork plan was implemented, and, where relevant, how the difficulties associated with conducting interviews

[38] Ed Colbert, Andrew Schein, and Daniel Douglas, *Causes of Food Waste in International Supply Chains*, Feedback and The Rockefeller Foundation. https://feedbackglobal.org/wp-content/uploads/2017/05/Causes-of-food-waste-in-international-supply-chains_Feedback.pdf accessed 8 September 2018.
[39] See interview with Stuart Macaulay in Halliday and Schmidt (n 15) 20.
[40] Hawkins (n 20) 445.; Halliday and Schmidt (n 15).

in the midst of a global pandemic were mitigated, both in terms of recruiting interview subjects and conducting the interviews themselves.

3.4.1. The Recruitment of Interview Subjects

As stated above, the research plan was to conduct approximately 52 interviews with various key actors in the food waste space. However, despite contacting in excess of 100 organisations, only 34 interviews in total were actually conducted with 32 separate organisations. Two interviews took place with WRAP, and with one retailer two separate interviews were conducted regarding different business functions. In Appendix A, a table is provided with the details of the interviews conducted, including the type of interview subject (industry sector), name of the business or organisation (where the subject agreed to be identified), the product produced, where applicable, and whether the organisation is a signatory to the Courtauld Commitment or IDG Roadmap.

There are a number of explanations for why the number of interviews fell short of the target. First, the sensitive nature of food waste for many food businesses meant that some retailers were reluctant to acknowledge the link between food waste and unfair trading practices. This reluctance is somewhat perplexing, considering the GSCOP's provision on compensation for forecasting error and the fact that waste caused by poor forecasting has consistently appeared at, or near the top, of retail suppliers' concerns in the annual YouGov surveys. Nevertheless, it does point to the sensitive nature of the role of retail practices in food waste generated on farms. One retailer, who initially agreed to be interviewed, asked for interview questions to be submitted in advance; after receiving the questions, they declined to be interviewed. Many of the smaller primary producers and food manufacturers contacted either did not want to talk about food waste or did not respond at all. It is likely that the fear of speaking out about unfair retail practices played a role in the modest number of interviews that were secured with farmers and smaller manufacturers. Second, the combined impact of Covid-19 and Brexit made 2020 a very challenging year for the food industry as a whole, but particularly for smaller farmers. As such, it was perhaps a bit naïve to expect to be able to recruit a high number of subjects for a PhD project. The difficulties encountered in recruiting interview subjects during the pandemic are discussed in more detail below.

Ethics approval for interviews was granted in January 2020. As outlined above, the plan for fieldwork was to conduct interviews in layers, beginning with primary producers, and then use their insights into the impact of the regulatory regimes in order to finesse the approach before speaking with large food manufacturers, retailers and regulators. Initial progress was good, and a number of interviews were conducted between January and early March 2020, with a

great deal of interesting material emerging, and further interviews with primary producers had been scheduled for late March and early April. However, by mid-March the onset of Covid-19 began to have a major impact on fieldwork, both in recruiting interviewees and, obviously, conducting interviews in person.

In the run-up to the first lockdown, panic buying caused shortages of food, and this, coupled with Brexit- and Covid-19-related labour shortages, meant that primary producers were under unprecedented pressure to get food into the supply chain. A number of interviews scheduled for late March and April were cancelled. Some of these interviews were conducted at a later date. However, despite best efforts to rearrange, some of the primary producers did not respond to requests to reschedule. As for recruiting further interview subjects, once in lockdown, with administrative staff working from home, it became extremely difficult to make initial contact with target businesses and get interviews set up. Therefore, in early April 2020, it became clear that it was impractical, and perhaps inappropriate, to try and recruit further interview subjects until some semblance of normality returned. Therefore, in conjunction with my supervisors, a decision was taken to temporarily suspend efforts to recruit interview subjects. Interviews already scheduled would take place subject to the interviewee's availability, albeit moved to an online platform.

3.4.2. Adjusting to the New Normal

By the beginning of June 2020, it was clear there would be no return to pre-pandemic normality anytime soon; Covid-19 would continue to impact the operation of food businesses. Therefore, the decision was made to recommence field work and try to adapt to the so-called 'new normal'. Nevertheless, this had implications for recruiting interview subjects, the layered approach to fieldwork and the interview process itself.

In the pre-lockdown period of fieldwork, the primary method of reaching potential interview subjects was to telephone the target business and try to speak to the appropriate person. If that person was amenable to being interviewed, the initial phone call was followed up with an e-mail containing the research information sheet and consent form and an interview date was scheduled. Although the potential interview subject was often unavailable at the time of the initial call, in most (but not all) instances the person staffing the phone was happy to supply either the e-mail address or a mobile number for the person concerned. However, during and following lockdown, many administrative staff continued to work from home. This meant that often the initial call was answered with a recorded message stating, 'please e-mail the person you wish to speak with' or the phone was not answered at all. Considerable time and effort were spent trying to contact people by telephone. However, without a prior e-mail address, contacting interview subjects, particularly in smaller organisations, was extremely difficult.

Some interviews were secured in June and July; however, progress was slow, and in August no interviews were conducted at all. The rate of progress necessitated a change in the approach, both in terms of contact method and also moving on from a focus on recruiting primary producers first to targeting all those organisations within the scope of the research simultaneously. By the end of July, despite the modest number of interviews with primary producers, a considerable amount of data had been obtained, and there were some quite consistent themes developing in relation to both regulatory regimes.

Due to continued home working, ringing the head office of the target businesses as an initial method of contact remained a rather fruitless endeavour. However, among large food manufacturers and retailers, potential interview subjects are more visible. In most cases, a simple Google search of the organisations 'Sustainability Manager' or 'Responsible Sourcing Manager' usually revealed who in the business was the appropriate contact. Often the first search result brought up was their 'LinkedIn' profile. These profiles are a valuable source of information as they not only confirmed the person's position in the company but usual provide a history of their employment. This is a useful tool for interview preparation because many subjects had performed similar roles in other businesses, albeit in different food categories, or had moved from food manufacturing to retail or vice versa. At times, this knowledge allowed the conversation to be steered into areas where the interviewee had valuable experience that was not specifically related to their current business or job role.

Once the potential interview subject was identified, they could be e-mailed directly, cutting out the need to speak to informal gatekeepers staffing the telephones who sometimes took it upon themselves to decide whether the company, or potential interviewee, had enough time (or interest) to respond to the request for an interview. The change in approach to direct targeting of interview subjects by e-mail coupled with widening the scope of businesses meant that the number of interviews secured in the latter part of 2020 increased significantly.

Although the final number of research participants was lower than hoped for, the sample achieved was still very valuable. This included employees from a number of the UK's largest food producers, both in primary production and food manufacturing. Participants from the retail sector included employees of premium price retailers, two of the big four and one of the discount supermarkets. Representatives from the UK's two major redistribution organisations, as well as the food waste NGO Feedback, also took part in the research. Therefore, input was obtained from across the supply chain as well as key third-party stakeholders. Importantly in terms of quality, a number of interviewees were active members within Courtauld's working groups and were able to shed light on the inner workings of the Commitment. Admittedly,

serendipity played a major role in recruiting these key actors.[41] Despite trying to obtain information on who specifically sat on the Courtauld working groups, it was not readily available, and therefore it was partly down to luck when a person interviewed from one of the targeted organisations sat on a Courtauld working group.

3.4.3. The Interview Process

The rest of this section outlines how the interview process was performed in terms of both preparing for and conducting the actual interviews. As will be shown, while there are some potential advantages associated with the new normal, there were also some hurdles to overcome.

3.4.3.1. Interview Preparation

As stated above, the interviews conducted were of a semi-structured nature. Therefore, the general areas for discussion and the main questions were formulated in advance. As Barbour puts it, 'there is a craft to formulating interview questions and to using these to advantage in the research encounter and, like so much in the qualitative research endeavour, this is not an exact science'.[42] The heterogeneous nature of interview subjects meant that getting the right data required adjusting the interview questions to suite the individual subject and the organisation they represented. For each area of the supply chain (retail, food manufacturer and primary producer) a basic question template was developed, an example of which is attached in appendix B. However, in most cases, these templates were modified before the interview to take into account differences between interview subjects. For example, where the participant was a signatory to the Courtauld Commitment, questions such as 'How has being a Courtauld signatory helped your business reduce food waste?' were included.

In order to adapt interview questions to the type of participant it was necessary to understand the basic operations of the organisation. For supply chain actors, this included the industry sector, the size and location of the business, the products produced and, in particular, their commitments to and progress on food waste prevention. For larger businesses, this information was usually freely available through the company's website and/or corporate sustainability reports. Having a basic understanding of the interview subject's business also helped gain rapport. As Huggins has noted, while the object of interviews is to gain knowledge, interview subjects 'might not appreciate having to go over basic information you could have

[41] Halliday and Schmidt (n 15) 5–6.
[42] Barbour (n 13) 3.

found out without having to trouble them'.[43] Moreover, interview subjects are often under time pressure and using valuable interview time to find out facts that are easily available through some preliminary research is extremely inefficient.[44] However, the extent of interview preparation was sometimes impacted by unexpectedly quick responses. A number of interview subjects wanted to be interviewed the day they were contacted, allowing very limited preparation. In contrast, some interviews were scheduled months in advance, and in some instances the questions were requested ahead of time. One retailer who had agreed to be interviewed subsequently cancelled after receiving the questions. Another wanted to view the questions in advance and to see the interview transcript and approve it, even after indicating the company name should remain anonymous.

3.4.3.2. Conducting the Interviews

The duration of interviews varied; most were approximately 60 minutes, but some were in excess of 90 minutes. The first three interviews took place in person. However, with the onset of Covid the remaining interviews were conducted online, usually by Zoom or Microsoft Teams. The change in format was, to begin with, quite challenging. When conducting interviews in person there is a window of time before the interview starts where there is an opportunity to get a feel for the interview subject and the organisation. Driving on to the site and walking to the interview location can also give insights: for example, it is easier to have a frank discussion about the problem of food waste on a farm when you have just driven past bins full of discarded product sat outside a packing shed. There are also opportunities to build rapport, which might include, for instance, small talk while you get set up for the interview or the interviewee makes a coffee. The interview process really begins well before the recorder is turned on.

However, online interviews are quite a different animal; you connect to the platform and in seconds you are face-to-face with an interview subject you have never met before. This can be quite unsettling. How do you start the interview? Bearing in mind time constraints, do you get straight into the questions, or do you try and engage in small talk, and if so, what do you talk about? The first interview conducted online was quite an uncomfortable experience; after thanking the participant for agreeing to take part, we went straight into the interview questions. There was no small talk; I had no idea where the interview subject lived, how far away from the office they were, or what challenges they faced in working from home. The lack of pre-interview interaction, I think, made us both feel uneasy and made it more difficult to build rapport. As Huggins rightly points out, 'A successful interview depends on a rapport being built

[43] Christopher Huggins, *Arranging and Conducting Elite Interviews: Practical Considerations* (SAGE Publications, Ltd 2014) 8 <http://methods.sagepub.com/case/arranging-and-conducting-elite-interviews-practical-considerations> accessed 15 October 2019.
[44] ibid.

up between the researcher and participant. This leads to 'rich and detailed responses from your participants'.[45] In this case, the unsettled (and slightly embarrassed) feeling persisted for the majority of the interview, and this made it difficult to concentrate on what the subject was saying, and therefore, what follow up questions to ask. When transcribing the interview, it became obvious that there were missed opportunities to probe deeper into interesting avenues of enquiry. Therefore, while this particular interview provided some valuable data, it was not as good as it might have been.

This experience highlighted a need to try and gain a better understanding, pre-interview, of the subject's professional and personal interests. For subsequent interviews more time was devoted to this type of preparation. A simple Google search of the participant's name and company often revealed that the subject had spoken publicly on topics relevant to the research, been interviewed by journalists in local newspapers or been involved in community projects. This offered valuable insight into the subject's professional and sometimes personal involvement in sustainability issues, while also providing an easy topic of conversation to get the interview started, before moving on to the more challenging questions. This preparation often helped to develop rapport with the interview subjects and put both myself and the interview subject at ease. However, this level of preparation was not always possible.

As mentioned above, one feature of the new normal (people working from home) is the speed at which interviews can be arranged and conducted. This obviously has an impact on how much preparation can be done pre-interview. There were several instances where interviews were conducted within hours of making initial contact with the subject. After sending an invite to one large food manufacturer, an instant response was received, saying, 'Happy to talk, give me a ring in an hour'. When this happens with an interview subject representing a company producing billions of pounds worth of food each year, it would be a brave (or foolhardy) researcher who asks to move the interview back a day or so because there has been insufficient time to research the company. Of course, in targeting the company some initial research into the business had already taken place, but an hour did not allow much time to prepare thoroughly.

However, as stated above, a significant amount of pre-interview preparation had been done and specific questions prepared. That said, in practice, the extent to which interviews followed the prepared structure varied considerably. At times, new and interesting information was brought up by the participant, which prevented all of the planned topics from being covered. As Barbour explains, the 'semi-structured' nature of interviews is crucial as it allows interviews to 'elicit data on perspectives of salience to respondents rather than the researcher dictating

[45] ibid 9.

the direction of the encounter'.[46] Further, as McBarnet has argued, 'getting new information that you didn't know is more important than making sure all the planned questions are answered'.[47] Nevertheless, the problem is that, when it comes to analysing the data, it can be difficult to make assertions about particular issues where the topic was not discussed with all of the interviewees. This is perhaps one of the limitations of the semi-structured interview method; I will return to the limitations of this research in more detail below.

Another important issue that arose during interviews was trust. As Huggins explains, 'trust is key, especially as some of your questions might be controversial or ask participants to think critically of their organization or their own activity'.[48] Bearing in mind the sensitivity of food waste, some interviewees were concerned that they and their organisation would not be identified in the research. As part of ethical approval, anonymity had to be guaranteed, and this was stated on the consent form. However, with some interview subjects there was a need to reassure the participants that the research would not be written up in a way that would lead them to be easily identified. Once trust was established, a number of interview subjects really opened up about the difficult nature of the relationships between themselves and their retail customers, as well as some of the limitations of the voluntary approach to regulating food waste. In some interviews, the participants became quite animated and began to swear and curse about certain issues they found particularly troubling. While this perhaps indicated that trust and rapport had been achieved, in some instances, interview subjects that had initially been happy to disclose their identity decided that it was best they remained anonymous. In writing up this thesis it was very important that this trust was maintained, and as a result, where anonymity could not be guaranteed, some very interesting information and viewpoints had to be left out.

3.5. Data Analysis

This section gives a brief explanation of the process involved in data analysis before acknowledging the limitations of this research.

The analysis of interview data began immediately after the first interview. In effect, data analysis ran simultaneously alongside conducting fieldwork, with transcription and coding taking place where there was slack in the interview schedule.

In order to facilitate systematic analysis, interview transcripts were uploaded and coded using 'NVivo 12' software. A code is defined 'as a word or short phrase that symbolically assigns a summative, salient, essence-capturing, attribute for a portion of language-based or visual

[46] Barbour (n 13) 9.
[47] See interview with Doreen McBarnet in Halliday and Schmidt (n 15) 158.
[48] Huggins (n 43) 9.

data'.[49] 'Codes are primarily, but not exclusively, used to retrieve and categorize similar data chunks so the researcher can quickly find, pull out, and cluster the segments relating to a particular research question, hypothesis, construct, or theme'.[50] According to the methods textbooks there are numerous different approaches to coding.[51] In analysing the interview data a two-stage approach was taken. The first stage involved generating initial codes. Here, rather than using a list of pre-determined codes, an inductive approach was taken. As such, each transcript was analysed from beginning to end and segments of data were assigned a code (or node) based on the theme or topic of conversation: for example, 'Reduced portion size'. The advantage of using an inductive approach is that it allows themes to emerge from the data rather than trying to squeeze everything into a list of pre-determined codes.[52] However, a problem with this approach is that it tends to generate a very long list of codes, some of which overlap. Therefore, a second stage of coding was required to group the initial codes into a smaller number of categories of themes. This process pulls together the abundance of material from the first coding exercise into more meaningful and manageable units of analysis.[53] Using the example above, 'Reduced portion size' was then grouped into the category 'Volume-based pricing' as a sub-category, which was in turn categorised under 'Reducing Household Food Waste'.

The advantage of using NVivo software for coding was that when writing about a particular topic, what various interview subjects had to say on the subject could be accessed very quickly. However, coding itself is a messy process, and it is very easy, at times, to lose the context of what was said when chunks of data are split up and assigned to different codes. This is a common criticism of the coding approach to qualitative data.[54] This problem was encountered when using NVivo as a tool to write up this research, and therefore while writing an iterative process evolved between looking at the coded extracts through NVivo and returning to the interview transcripts to ensure what was being said was not taken out of context.

3.6. Ethical Considerations

Before commencing fieldwork, ethical clearance had to be obtained from the University of York's Law, Management, Politics and Sociology Ethics Committee. As stated above, approval for interviews was granted in January 2020.

[49] Miles, Huberman and Saldana (n 4) 78.
[50] ibid 79.
[51] ibid 79–104.; Also see Bryman (n 7) 566–589.
[52] Miles, Huberman and Saldana (n 4) 90.
[53] ibid.
[54] Bryman (n 7) 578.

One of the key principles of ethical research is informed consent. As part of the process of recruiting potential interview subjects, an 'Information Sheet' was provided in advance (by e-mail) that outlined the background and purpose of the research and why the participant had been invited to take part. The information sheet also included important details on the measures that would be taken to ensure personal data was managed in accordance with data protection regulations. Anonymity was given to all research participants and only waived if explicit permission was given by the participant. The information sheet was accompanied by a 'Consent Form' that participants were required to complete, which specified whether the interviewee consented to their name and/or the name of their organisation being disclosed in the research, as well as whether the interviewee granted permission for the interview to be recorded, so as to aid transcription. Due to the diversity of potential research subjects, five different versions of the information sheet were approved by the ethic committee. An example information sheet and the consent form are provided in Appendix C.

As discussed above, food waste is a sensitive topic, and regarding anonymity, one of the main risks to be avoided was harm being caused to relationships between the participants and their customers. Although food production is a relatively large industry, there is still a risk that participants might be identified indirectly by other organisations in their supply chain should the products they produce be disclosed. Therefore, when writing up this research, where consent to be named has not been given, individual supplier product lines and their retail and/or manufacturing destinations have not been disclosed.

3.7. Research Limitations

Some of the general limitations of qualitative research have been addressed in Section 2 above, and this research does not make any claim in terms of the representativeness of the sample or generalisation of the findings.

One of the risks of adopting qualitative research methods is the possibility of excessive researcher influence. As Hawkins has pointed out:

> Social research is itself a social process. Thus, it is important to acknowledge that the data which comprise the raw material for analysis are themselves the product of interaction with the research subjects and that we recognise that the social science researcher is also given to substantial interpretive work as analyst and writer.[55]

As such, the researcher's distinct ways of thinking about the problem are reflected in the way that data are collected, analysed and interpreted.[56] To try and minimise research bias,

[55] Hawkins (n 20) 445.
[56] ibid.

interview questions were as open-ended as possible, and subjects were given the opportunity to talk about any issues they thought relevant to the regulation of food waste as a whole.

3.8. Thesis Structure

As the earlier chapters in this thesis have illustrated, overproduction and the food waste it creates is a complex issue. The factors that cause food waste to arise in different locations in the food chain often originate at the retail level. Because of the interrelated nature of the food waste problem, it has been difficult to decide how best to structure the remaining chapters. The following chapters could have been presented in any number of ways, for example by the level in the waste hierarchy in which the prevention measures sit, whether they represented strong or weak prevention, or by the location of regulatory efforts in the food chain. It was decided that the latter approach, although not perfect, would be the most logical. Therefore, the chapters follow the food system, beginning with regulatory efforts pre-consumption and then moving along the food system to consumers. However, in chapter 8 it is necessary to return to the supply chain to provide context to some of the most important limitations this research has identified in relation to voluntary efforts to reduce food waste.

The remaining chapters are structured as follows.

Part 1 of the thesis is concerned with the impact of legal regulation on the overproduction of food. As such, chapter 4 assesses what impact the Grocery Code Adjudicator's policing of the Grocery Supply Chain Code of Practice has had on levels of overproduction and food waste experienced by retail suppliers.

Part 2 of the thesis is concerned with voluntary efforts to reduce food waste through the Courtauld Commitment. The findings and analysis in this part are divided into four chapters. Chapter 5 assesses progress made to reduce surplus and food waste in the supply chain (primary production and food manufacturing). Chapter 6 then turns to surplus food redistribution to explore the factors that drive efforts to prevent the surplus food in the supply chain that cannot be avoided from being wasted. In chapter 7 we move to the consumption stage of the food chain to evaluate progress being made to reduce the amount of food wasted in consumer households. To understand the limits of the voluntary approach, chapter 8 returns to the supply chain to provide context to the problems of competition, trust and transparency. As will be shown, these problems create significant challenges to regulatory efforts to reduce the overproduction of food. Chapter 9 concludes the thesis by summarising the key findings of this research and the significance of these conclusions for regulatory efforts to reduce overproduction and food waste. Finally, suggestions are made for further research that could help broaden understanding in the field of food waste and regulatory efforts to prevent it.

Part I – Legal Regulation

Chapter 4 - The Grocery Code Adjudicator's Regulation of the Grocery Supply Chain Code of Practice

4.1. Introduction

Chapter 2 recognised the potential for food waste reduction to be achieved through the GCA's policing of unfair trading practices under the GSCOP. This chapter sets out the findings from interviews with retailers and their suppliers (primary producers and food manufacturers) as well as document analysis from the GCA's own annual reports and supplier surveys. A key question this research was trying to answer was:

What impact has the GCA regulatory regime had on levels of overproduction and associated food waste experienced by retail suppliers on the ground?

In practice, this has proved a very difficult question to answer. As highlighted in chapter one, the causes of food waste are complex, and so too are retail supply chains. There are a number of factors at play that make it difficult to establish a causal connection between the GCA's regulation of the GSCOP and levels of food waste in UK retail supply chains.

First, regarding primary production, there is no reliable data to make any comparison of levels of food waste experienced by suppliers before or after the establishment of the GCA.[1] In fact, none of the suppliers interviewed were able to point to any specific measured reductions in their levels of food waste. Second, as a result of various retail demands on farmers, the last two decades have seen a growing trend towards the consolidation of retail suppliers in UK primary production.[2] This means retail supply is dominated by large corporate suppliers (including producer organisations), often with multiple production sites, supplying multiple retailers.[3] To provide retailers, as well as their own production facilities, with a reliable year-

[1] Bajzelj and others, 'Food waste in primary production in the UK: An estimate for food waste and food surplus in primary production in the UK' Final Report (WRAP, July 2019).
[2] Carol Richards and others, 'Retailer-Driven Agricultural Restructuring—Australia, the UK and Norway in Comparison' (2013) 30 Agriculture and Human Values 235, 236.; Also see Tim Lang and David Barling, 'The Environmental Impact of Supermarkets: Mapping the Terrain and the Policy Problems in the UK in David Burch and Geoffrey Lawrence (eds) *Supermarkets and Agri-food Supply Chains* (Edward Elgar, Cheltenham, 2007) 205.
[3] Many large food manufacturers also operate from different sites and supply multiple retailers, although some manufacturers interviewed did have specific factories supplying only one retailer. In this case they were able to attribute levels of waste to the retailer concerned.

round supply, these large corporate suppliers buy produce from all over the world as well as smaller UK farmers. This means food waste arises for numerous reasons at multiple stages of production and at multiple sites across the world. Therefore, tracking this waste is extremely challenging, let alone trying to determine when, or if, this waste might be attributed to one particular retailer's unfair trading practices.

Notwithstanding the difficulties above, this research has found that, in relation to some Code provisions, GCA regulation has had a very positive impact on the use of unfair trading practices by retailers on their suppliers. However, in terms of the specific unfair trading practices that cause food waste, the impact of regulation has been less significant. Most suppliers perceived that there had been some improvement in their levels of food waste due to the GCA's regulation. When asked about the GCA's impact on their levels of food waste, the typical answer from suppliers was – it's better than it was – but there was no definitive answer as to why this might be the case. The decrease in food waste is likely the result of a drop in supply-side overproduction. While GCA regulation may have played some part in this reduction, as will be illustrated below, there are other market factors that may offer stronger explanations for why supply-side overproduction has decreased. In relation to overproduction caused by surplus retail availability, this research has found that the GCA regulatory regime has had limited success in preventing the risks and costs of food waste from falling predominantly on suppliers. As will be argued below, there are a number of factors contributing to this regulatory failure: ambiguity in the Code; information asymmetries between the GCA and regulated retailers; the GCA's complaints mechanism; supplier perceptions of what is fair in market relations; and the complexity of modern supply chains. It is further argued that the GCA's regulatory effectiveness could be enhanced by better use of its communication regulation capabilities. However, as will be shown below, there may well be tension between the goal of improving retail compliance and maintaining the GCA's reputation.

The chapter is structured as follows. Before moving on to the specific issues of overproduction and food waste, Section 2 briefly presents suppliers' perspectives on the overall impact of GCA regulation on unfair trading practices. Section 3 examines the relationship between retail availability clauses and supply-side overproduction and offers some explanations as to why suppliers might have seen a decrease in their levels of food waste. Section 4 illustrates the difficulties incurred by the GCA in attempting to prevent the risk of surplus availability being disproportionately borne by suppliers through the Code provisions on compensation for forecasting errors. Finally, in Section 5, the GCA's use of communication regulation as a second regulatory instrument is explored.

4.2. The GCA's Impact on Unfair Trading Practices

As mentioned above, food waste is only a tangential concern for the GCA. Therefore, while this thesis is primarily concerned with the GCA's impact on food waste, it is important to acknowledge that, overall, this regulatory regime has had a very positive impact in kerbing many unfair trading practices. To give some examples, before the establishment of the GCA, Vorley described how some supermarkets had been, in effect, using their large suppliers as surrogate bankers by demanding upfront payments to keep their preferred supplier status.[4] In 2006, it was reported that Asda had asked its largest suppliers to pay between £10 million and £60 million 'to share the benefits of the supermarket's growth'.[5] Supermarket growth was also being financed through increased pressure from retailers in the number of days' credit they took from suppliers and delay in payments was a common problem.[6] In these areas there has been significant improvement as a result of GCA regulation.[7] As one supplier noted,

> I think [the GCA's regulation] it's stopped the big retailers from flexing their muscle too much with things like overriders to put stuff on the shelf - they are a thing of the past in the big retailers now.[8]

In other areas too, suppliers agreed that GCA regulation had made a big impact. As one large grower stated, 'It's made a difference; it's made a massive difference. In areas such as retrospective rebates, in terms of you know, them coming back for guineas and all that sort of thing, it's made a huge difference'.[9]

Another farmer said,

> So, a lot of people now don't remember the days when they'd ring you up and say we found it a penny cheaper next door, so you're going to lose the business unless you give us a rebate, we want it retrospectively. People soon forget, and there was nominated packing suppliers, so you had to buy all your packaging off Joe Bloggs, and he was actually giving [the retailer] a rebate.[10]

Most suppliers felt that, although retailers still held too much power, the GCA's policing of the GSCOP had made dealings with retailers fairer. All the suppliers interviewed believed it was

[4] Bill Vorley, 'Supermarkets and Agri-Food Supply Chains in Europe: Partnership and Protest', *Supermarkets and Agri-food Supply Chains* (David Burch and Geoffrey Lawrence (eds), Edward Elgar 2007) 258.
[5] ibid.
[6] ibid.
[7] GCA, 'Annual Report and Accounts 1 April 2019 – 31 March 2020' (Groceries Code Adjudicator 2020) HC 349.
[8] Interview with Andy Mitchell, 'Interview 07: PP05 World Wide Fruit' (8 June 2020).
[9] Interview with Anonymous Primary Producer, 'Interview 11: PP07' (24 July 2020).
[10] Interview with Guy Poskitt, 'Interview 06: PP04' (18 May 2020).

important that the government continued to support the office of the Adjudicator. As one farmer stated, 'believe me [if] the Adjudicator disappeared, they'd all be back at it, don't worry about that'.[11] For the same reason a large grower declared, 'we've lobbied hard to make sure [the GCA] doesn't get mothballed'.[12]

4.3. Supply-Side Overproduction and Service Level Clauses

As discussed in Chapter 1, this thesis posits that overproduction is a significant root cause of food waste.[13] For analytical purposes, it is helpful if we think about overproduction as being split into two parts, supply-side overproduction and surplus retail availability, the sum of which gives us an overall level of overproduction.

Supply-side overproduction is the level of production, determined independently by suppliers for a particular product, over and above the forecast requirement of the retailer. This is the level of production the supplier feels is necessary to provide a safety net, so that the customer is not let down, while also considering potential uplifts in consumer demand. Hence, supply-side overproduction is linked to meeting retail availability clauses (or service-level agreements). As was highlighted in Chapter 1, availability clauses contained in retail supply contracts allow suppliers to be penalised for failing to meet orders. Therefore, a level of supply-side overproduction is planned or factored in by the producer for each production run. In the case of primary producers, this is over and above what is factored in to take account of environmental threats and losses due to cosmetic grade-outs.[14] Once the supplier decides on the supply-side overproduction percentage, this is, in effect, locked-in for the production lead time of the product.

Surplus retail availability is created when consumers fail to buy the volume of product the retailer has made available; this is sometimes referred to in the overproduction literature as a problem of underconsumption.[15] As was pointed out above, for suppliers, production volumes are locked-in when the product's production lead time is reached. However, for the retailer, modern stock control systems using electronic point of sale data can identify surplus stock

[11] ibid.
[12] Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[13] Tristram Stuart, *Waste: Uncovering the Global Food Scandal* (Penguin Books 2009).; Carrie Bradshaw, 'Waste Law and the Value of Food' (2018) 30 Journal of Environmental Law 311.; Carlos Mena, B Adenso-Diaz and Oznur Yurt, 'The Causes of Food Waste in the Supplier–Retailer Interface: Evidences from the UK and Spain' (2011) 55 Resources, Conservation and Recycling 648.; Julian Parfitt, Mark Barthel and Sarah Macnaughton, 'Food Waste within Food Supply Chains: Quantification and Potential for Change to 2050' (2010) 365 Philosophical Transactions of the Royal Society B: Biological Sciences 3065.
[14] Interview with Anonymous Primary Producer, 'Interview 01: PP01' (28 January 2020).
[15] Martin O'Brien, 'A "Lasting Transformation" of Capitalist Surplus: From Food Stocks to Feedstocks', *Waste Matters: New Perspectives on Food and Society* (David Evans, High Campbell and Ann Murcott (eds), Wiley & Sons 2013) 202–203.

accumulating in the system. Just-in-time purchasing strategies mean that incoming product volumes can be adjusted by reducing or cancelling forecast product before the supplier delivers. Therefore, despite the supplier producing what the retailer has forecast (plus a safety margin), as delivery approaches there is no guarantee that the volume of product produced will actually be purchased (the actual order may not match the forecast).[16] This means that the risks of meeting service levels and surplus retail-availability are shouldered by suppliers, while levels of in-store surplus are kept to a minimum. As such, the supplier is then responsible for trying to avoid the risk and cost of this surplus becoming food waste.

According to research conducted before the establishment of the GCA, 'over-producing to avoid under-supplying supermarkets was absolutely standard practice in the agricultural sector'.[17] Pressure to meet service levels meant that farmers on occasion had preferred to buy in product at a loss to cover orders rather than see a drop in their service levels.[18] Obviously, this was not a sustainable solution, and rather than risk letting the supermarket down, growers have tended to overproduce; better to be safe than sorry. Stuart gives the example of carrot grower Guy Poskitt, who was so concerned about meeting customer service levels he was overproducing by 25 per cent.[19] Such high levels of supply-side overproduction are clearly problematic; the higher the percentage, the more likely the supplier will incur high levels of food waste. Therefore, an important question was whether regulation by the GCA had had any impact on levels of supply-side overproduction.

As stated above, there are no reliable data on food waste volumes on farms. Nevertheless, one food waste activist stated that if data were available it would show that GCA regulation 'had a pre-emptive, in some cases transformational impact on the relationship between retailers and their suppliers, which has resulted in less food being wasted on farms'.[20] Research conducted by Beausang and others post-establishment of the GCA found that levels of overproduction in the UK fruit and vegetable sector have now declined.[21] The research indicated that one reason was that farmers are 'now able to discuss issues of shortages with retailers, and many felt it was no longer necessary to overproduce in case of undersupplying their customers'.[22] However, their suggestion that 'overproduction may now be a less important issue than previously thought', required more detailed exploration.[23] One possible

[16] Stuart (n 13).; European Court of Auditors, 'Combating Food Waste: an opportunity for the EU to improve the resource-efficiency of the food supply chain Special Report No 34', 2016 Luxembourg. 49.
[17] ibid 109.
[18] ibid.
[19] ibid.
[20] Interview with Anonymous Food Waste Activist, 'Interview 02: ACT01' (11 February 2020).
[21] Ciara Beausang, Clare Hall and Luiza Toma, 'Food Waste and Losses in Primary Production: Qualitative Insights from Horticulture' (2017) 126 Resources, Conservation and Recycling 177, 182.
[22] ibid.
[23] ibid.

contributing factor not explored by Beasang and others*'s* research is the possible impact of regulation by the GCA.

In terms of declining supply-side overproduction, the findings of this research broadly align with those of Beausang and others*'s.* Nevertheless, this research offers some more detailed reasoning for the decline. Meeting retail service levels is still extremely important to suppliers; those interviewed perceived that a failure to do so would lead to some form of economic consequence such as reduced order quantities or even being 'traded out' as a supplier. But, importantly, none of the primary producers interviewed had actually received an explicit penalty or claim for loss of profits for failing to meet contractual service levels.[24] One farmer said that they used to be threatened with penalties, but 'that all seems to of fizzled out, which I would imagine that's as a result of the Grocery Code Adjudicator'.[25] When carrot grower Guy Poskitt was interviewed for this research in 2020, he stated his overproduction levels were now only 10 per cent. However, he stressed that meeting customer service levels was still extremely important, especially at key times of the year such as Christmas. Across the primary producers interviewed, overproduction levels of between 5 and 10 per cent were typical for smaller suppliers.[26] One large supplier claimed they no longer overproduced at all, instead they worked on underproducing by 5 per cent, and where necessary used the flexibility in their supply base to move products between customers.[27]

As stated above, most large suppliers in the fruit and vegetable sector also act as traders, buying in produce from smaller growers and overseas producers to fulfil their contracts. Therefore, it is important to note the possibility that some of the supply risk, and the supply-side overproduction it causes, has simply been transferred down to the indirect suppliers that feed into them. It is also worth noting that 'indirect suppliers' are not protected under the Code. That said, there still appears to have been quite a significant reduction in levels of overproduction when compared to Stuart's earlier findings. Retailers' more relaxed stance on enforcing contractual penalties for failure to meet service levels might explain why, on the supply-side, overproduction has reduced, and in turn why suppliers have seen a drop in food waste. The GCA's communication regulation has raised awareness of poor treatment by retailers of their suppliers, particularly farmers, and it is likely that this has had some impact here. Communication regulation is discussed in more detail below. Nevertheless, for Tesco,

[24] One food manufacturer had recently had a battle with a retailer over loss of profits where production difficulties had meant they were unable to supply significant quantities of products. But this was resolved without any payment being made.
[25] Interview with Anonymous Primary Producer, 'Interview 03: PP02' (4 March 2020).
[26] Levels of overproduction are crop specific, for one crop a figure of 40 per cent was quoted. However, this reflected uncertainty in yield, which is weather related, rather than a commercial factor.
[27] Interview with Primary Producer, 'Interview 11: PP07' (n 9).

regulation by the GCA did not appear to be the primary reason for this more relaxed stance on enforcing service-level requirements.

4.3.1. Market Factors and Reduced Supply-Side Overproduction

In addition to the GCA's possible regulatory impact, there are two other competition-related factors that help explain why levels of supply-side overproduction have been reduced. Tesco's Code Compliance Officer (CCO) acknowledged the link between enforcement of availability clauses and overproduction.[28] He explained that in the past, if a supplier failed to meet order volumes, it was common practice for buyers to use clauses in the supply agreement to threaten financial consequences. As a result, farmers were overproducing at levels of around 20 per cent. Such high levels of supply-side overproduction meant that Tesco was unlikely to be let down by their suppliers, but on the flip side, it also meant that there were high volumes of surplus product available on the market. Some of this surplus might end up being ploughed back into the ground as food waste. However, farmers were obviously going to try and recover as much of this cost as possible and were willing to sell produce well below the price they received from Tesco. As Tesco's CCO explained, 'the discount supermarkets and other wholesalers proved exceptionally canny at picking up those surpluses and undercutting us on price'.[29] Therefore, forcing farmers to overproduce at such high levels had become counterproductive; it was hurting Tesco financially. In this case, it appears that the invisible hand of the market was doing its job.

However, from the supplier perspective, another explanation for reduced supply-side overproduction was that competition between retailers for ever-lower prices had squeezed much of the margin out of the products. Tighter margins made it too risky to overproduce at the levels they had in the past. Put another way, high levels of supply-side overproduction can no longer be 'factored in' as a cost of production. As a large grower put it,

> When I first started in this game, it would have been nothing to grow ten or fifteen percent more than was required, because there was a margin in the game. … that bit of margin took you through, if you threw some away you could live with that.[30]

For growers there is a risk that at the time of harvest the market price for surplus may not justify picking the crop. As Messner and others point out, 'From a producer's perspective, market prices heavily impact on whether a crop goes to harvest or to surplus and waste. Low prices mean the costs of growing and harvesting surplus may not be recoverable at the given

[28] Interview with David Ward, 'Interview 15: Tesco' (14 October 2020).
[29] ibid.
[30] Interview with Primary Producer, 'Interview 11: PP07' (n 9).

or rapidly declining market price point'.[31] Taken together, the factors above provide some explanation as to why supply-side overproduction may have decreased in UK primary production and why suppliers might have seen a decrease in food waste. However, while GCA regulation has likely played some part, it is difficult to assess how much impact regulation has had, as opposed to the other market factors. Nevertheless, enforcement of availability clauses and associated supply-side overproduction is just one side of the equation. The next section examines the problem of excess production due to inaccurate forecasting.

4.4. Overproduction and Forecasting Accuracy

Suppliers may also incur significant volumes of food waste when the retailer recognises that availability levels are likely to exceed consumer demand and therefore cancels or changes order volumes at the last minute.[32] Weather-related demand-side fluctuations will always make it difficult for retailers to get forecasts right. However, it is unfair that suppliers should have to bear all the risk and costs associated with balancing product availability with consumer demand. As Erikson and others explain, market power is manifested in a lack of incentives for retailers to decrease the amount of waste created by poor forecasting, and this abuse of market power restricts the ability of suppliers to recognise their full economic potential.[33] Therefore, limiting the ability of retailers to drive food waste by creating high levels of availability at their suppliers' expense could reduce overall levels of overproduction.[34] As Lemaire and Limbourg point out, a shift in responsibility for managing surplus and waste 'could incite retailers to better manage demand planning, ordering, and information sharing'.[35] The following subsection sets out how the legislation attempts to address the problem of inaccurate forecasting.

4.4.1. Addressing the Unfair Allocation of Risk: Compensation for Forecasting Error

Section 6 of the Groceries (Supply Chain Practices) Market Investigation Order 2009 (the Order) requires that all retail supply agreements, as well as any subsequent contractual

[31] Rudolf Messner, Hope Johnson and Carol Richards, 'From Surplus-to-Waste: A Study of Systemic Overproduction, Surplus and Food Waste in Horticultural Supply Chains' (2021) 278 Journal of Cleaner Production 123952, 7.
[32] European Court of Auditors, 'Combating Food Waste: an opportunity for the EU to improve the resource-efficiency of the food supply chain Special Report No 34', 2016 Luxembourg. 49.
[33] Mattias Eriksson and others, 'Take-Back Agreements in the Perspective of Food Waste Generation at the Supplier-Retailer Interface' (2017) 122 Resources, Conservation and Recycling 83, 91.
[34] ibid.
[35] Anais Lemaire and Sabine Limbourg, 'How Can Food Loss and Waste Management Achieve Sustainable Development Goals?' (2019) 234 Journal of Cleaner Production 1221, 1229.

agreements or arrangements, are recorded in writing. In terms of supplier certainty, Schedule 1 of the order sets out 'The Grocery Supply Chain Code of Practice' (the Code). Part 2 of the Code contains an overarching principle of fair dealing, which states:

> A Retailer must at all times deal with its Suppliers fairly and lawfully. Fair and lawful dealing will be understood as requiring the Retailer to conduct its trading relationships with Suppliers in good faith, without distinction between formal or informal arrangements, without duress and in recognition of the Suppliers' need for certainty as regards the risks and costs of trading, particularly in relation to production, delivery and payment issues.

The explanatory note accompanying the Order, although not legally binding, 'emphasises the need for certainty on the part of suppliers regarding the risks and costs of trading, particularly in relation to key elements of the supply chain production (including volume and sizes of products).'[36]

Specifically, in relation to forecasting, Part 4(10) of the Code sets out a provision to provide compensation where a supplier has incurred cost due to forecasting error. The provision states that:

> (1) A Retailer must fully compensate a Supplier for any cost incurred by that Supplier as a result of any forecasting error in relation to Grocery products and attributable to that Retailer unless:
>
> > (a) that Retailer has prepared those forecasts in good faith and with due care, and following consultation with the Supplier; or
> >
> > (b) the Supply Agreement includes an express and unambiguous provision that full compensation is not appropriate.
>
> (2) A Retailer must ensure that the basis on which it prepares any forecast has been communicated to the Supplier.

The provision providing compensation for forecasting error should provide retailers with an incentive to get forecasting right. In theory, this should spread the risk of supply more evenly and give suppliers a higher degree of certainty. The problem is that both the forecasting provision and the fair dealing principle are ambiguous. There are a number of terms that are not defined: for example, the Code indicates that retailers will not have to compensate suppliers for forecasting errors where the forecast has been prepared in 'good faith', with 'due

[36] The Groceries (Supply Chain Practices) Market Investigation Order 2009 Explanatory Note, Para 41.

care' and in 'consultation' with suppliers.[37] What constitutes good faith and due care are not defined in the Code, nor is the extent to which retailers must consult with suppliers. The provisions are intended to prohibit the use of unfair trading practices. However, paragraph 1(b) appears to allow retailers to continue using unfair practices where the supply agreement clearly and unambiguously states they can.[38] Most troublingly, the Code fails to define what a forecast actually is and when the trading relationship between retailer and supplier requires a forecast to be prepared.

4.4.2. The GCA's Guidance on Forecasting: Principles Over Substance

The ambiguity in the Code provisions is a key factor inhibiting the ability of the regulatory regime to ensure that the risks and costs of surplus retail availability and the food waste it causes are not borne solely by suppliers. In the context of the 'Code Adjudicator' model, as Meers and Hind have pointed out, 'it is highly unusual for the regulator to have to make decisions on what the law means ahead of taking regulatory action on that law'.[39] As such, it is important to map out how the GCA has attempted to clarify the ambiguity in the Code. The GCA's annual reports demonstrate that dealing with the problem of forecasting accuracy has been difficult for the regulator. Here, the GCA's efforts have been constrained by both the legal design of the Code and difficulties in the task environment. This section maps out how the GCA's guidance on forecasting has evolved and points out some problems with it in the lack of clarity it provides suppliers and retailers.

The problem of forecasting accuracy was swiftly raised by suppliers following the GCA's establishment, with suppliers reporting that they had been charged for non-delivery against orders and without any reference to the forecast.[40] The GCA was rightly concerned that 'such activity pushes the risk of managing variability of demand onto the supplier but with little, if any, control over it'.[41] Accordingly, in 2015, compensation for forecast error was made one of the GCA's top priorities.[42] Later that year, the GCA undertook a review of the regulated retailers' forecasting practices, and in March 2016, it published a statement of best practice

[37] ibid Section 10(1)(a).
[38] ibid.
[39] Jed Meers and Liz Hind, 'The "Code Adjudicator" model: The Pubs Code, statutory arbitration and the tied lease' Forthcoming, Legal Studies, 15.
[40] GCA, 'Annual Report and Accounts 2014 – 2015' (Groceries Code Adjudicator 2015) HC 154 29.
[41] ibid.
[42] ibid.

that retailers were required to work towards.[43] However, before setting out what best practice might look like, the GCA stated that:

> Retailers adopted a range of approaches and used the word "forecast" in a variety of ways. Some made a clear distinction between a forecast and an order; others did not see forecasting as a discrete activity but rather, as an integral part of supply chain management, often proceeding close to real time; still others integrated forecasting into a joint business planning process that was documented alongside the Supply Agreement. Many suppliers do their own forecasting, some sharing this with the retailers they supply.[44]

Further, the GCA announced that, despite the different approaches taken by retailers and the implications for who bears the risk of forecasting error, 'on the information provided, from March 2016 all retailers' approaches appear to be compliant with the Code. All retailers are striving for continuous improvement in forecasting practice'.[45] With retailers appearing to be compliant and working to improve their practices, rather than issuing detailed guidance on how retailers should conduct their forecasts, the approach taken by the GCA was to agree with retailers on a set of ethical principles to guide the forecasting process.[46]

The GCA's 2016 forecasting guidance set out five principles that should improve suppliers' ability 'to meet orders and to anticipate and calculate the full costs of supply'.[47] However, the best practice statement appeared to be little more than a plea for retailers to 'consider what improvements they could make to the transparency of their communications with suppliers around forecasting'.[48] The principles indicated that closer collaboration between retailers and suppliers was the key to achieving more accurate forecasting. While this is no doubt true, there was no information on what a forecast should include, who was responsible for providing that information, by when it should be provided or what might constitute a forecast error.

In terms of fairness, the guidance did point out that retailers should review forecast-to-order performance before deciding whether a supplier should incur a penalty 'in relation to short orders and service level performance'.[49] Nevertheless, questioning whether a supplier should be fined for a shortfall is not the same as determining when a supplier should be compensated for a retailer's error. This seems to be a rather backwards way of interpreting a provision

[43] GCA, 'GCA Best Practice Statement: Forecasting' (Groceries Code Adjudicator 2016).
[44] ibid 2.
[45] ibid.
[46] Interview with Tesco CC04 14/10/20.
[47] GCA, 'GCA Best Practice Statement: Forecasting' (n 45) 2–3.
[48] ibid.
[49] ibid 3.

intended to compensate suppliers but is perhaps an implicit acknowledgement of the one-sided nature of where the risk of consumer demand fluctuations really fall. However, importantly, the guidance did state that retailers should ensure with suppliers 'that the risks and costs of fluctuations in supply and demand are fairly shared, reflecting among other things the influence and control each had over the forecasting process, especially where weather is a significant influencing factor'.[50]

Despite the 2016 guidance, forecasting remained high on the list of supplier concerns in the 2017 YouGov annual survey.[51] In addition, suppliers reported that forecasting in relation to promotions was particularly poor.[52] The GCA stated that 'following monitoring, it was unconvinced that sufficient improvements had been made'.[53] After further consultation with the regulated retailers, the GCA updated the statement of best practice on forecasting with additional guidance relating to promotional activities.[54] The GCA again failed to define what constituted a forecast or forecasting error and repeated its 2016 statement that, although retailers' approaches to forecasting differed significantly, 'all appeared to be compliant with the code'.[55] The guidance reiterated all the best practice principles from the previous version, with some noteworthy additions relating to the meaning of 'due care' and when full compensation is not appropriate.[56]

In terms of collaboration, the 2018 guidance states:

> the due care test is unlikely to be capable of being met by a retailer that provided no way for a supplier to contribute to the forecasting process, whether collaboratively in reaching agreed volumes to be ordered or by ensuring suppliers can raise questions and queries if a forecast seems to them to be inaccurate or to have resulted in an excessive order.[57]

Moreover, the guidance also states that a blanket ban on compensation for inaccurate forecasting is also unlikely to be Code compliant, 'both in terms of risk sharing, and depending on the facts, due care in preparation of the forecast'.[58]

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[50] ibid.
[51] Forecast error was second only to delayed payments, see GCA, 'Annual Report and Accounts 1 April 2017 – 31 March 2018' (Groceries Code Adjudicator 2018) HC1088 35.
[52] ibid 36.
[53] ibid 35.
[54] GCA, 'GCA Best Practice Statement: Forecasting and Promotions Including Taking Due Care When Ordering for Promotions' (Groceries Code Adjudicator 2018).
[55] ibid 3.
[56] ibid 3–4.
[57] ibid 4.
[58] ibid.

In relation to fairness, preventing retailers from attempting to contract out of the forecasting provision entirely is a positive step. However, in terms of collaboration, the guidance still lacks clarity. It is not clear when collaboration is required to reach agreed volumes or when simply giving the supplier an opportunity to question the accuracy of the forecast is sufficient.
Questioning a forecast is not the same as developing one collaboratively. In terms of the former, for a retailer to claim a forecast has been prepared with due care just because the supplier was given the opportunity to question it fails to recognise that information asymmetries are likely to exist between the parties. As will be discussed below, smaller suppliers in particular may not have the required knowledge to question the accuracy of the forecast. Further, what action retailers must take if a query is made is not covered in the guidance, nor is there any indication of when failure to compensate suppliers is appropriate.

Also problematic is that, rather than defining for suppliers what constitutes a forecasting error, the guidance put the onus on retailers to explain to suppliers when their forecasting might be inaccurate and how they should go about seeking compensation, and further that retailers should consider the extent to which they might voluntarily offer compensation for inaccurate forecasting.[59] Considering the Adjudicator's own assertion that for retailers getting forecasts right is a systemic problem requiring culture change across the industry and detrimental behaviour was deeply embedded and difficult to change,[60] the notion that retailers might volunteer to tell their suppliers when they have made a forecast error and offer compensation appears either overly optimistic or naïve.

4.4.3. Negotiated Non-Compliance?

The previous section has highlighted some of the problems with the GCA's guidance on forecasting. This section offers some possible explanations as to why clarifying what the code requires has been challenging for the GCA. It is argued that, rather than undertaking the complex task of providing detailed guidance on forecasting, instead, in line with its cooperative approach, it sought a promise from retailers to improve their forecasting practice. However, as will be explained below, the problem with this approach is it can lead to 'negotiated non-compliance'.[61]

The section begins by setting out some of the complexities of forecasting and the challenges this created for the GCA. It then highlights the some of the discussions that took place between

[59] ibid.
[60] Christine Tacon, GCA Annual conference July 2018.
[61] Neil Gunningham, 'Negotiated Non-Compliance: A Case Study of Regulatory Failure' (1987) 9 Law & Policy 69.; Keith Hawkins, *Environment and Enforcement* (Clarendon Press 1984) 127.

the GCA and regulated retailers in the period leading up to the publication of the 2018 guidance.

Information asymmetries between the GCA and regulated retailers are one factor that likely led to the lack of substantive guidance. As Black has pointed out, a limitation of direct regulation is that the regulator is unlikely 'to know as much about the regulated industry, as industry does itself'.[62] Forecasting is a complex issue; whether a supplier needs a forecast at all, and if so, how much certainty the forecast needs to provide, depends both on the nature of the retail-supplier relationship and the material qualities of the product. As one retailer explained, 'transient relationships, where the retailer simply places an order based on the supplier's availability do not require a forecast'.[63] Forecasting accuracy, while no doubt important for all suppliers, is less likely to cause significant financial impact (or food waste) where product shelf life is long. However, where the retailer and supplier are in a long-term trading relationship and the product is perishable, the importance of accurate forecasting becomes more pronounced;[64] both the retailer and the supplier require a higher degree of certainty.[65] The problem is that, considering the scale and diversity of retail product ranges, variation in trading relationships, different production lead times and perishability of products and the variety of forecasting systems used, determining what relationships and products require a forecast, and what degree of certainty that forecast must provide, would have been a complex and onerous task for the GCA.

As stated in Chapter 2, the GCA has limited resources. While Christine Tacon, the Adjudicator responsible for the guidance, has in-depth knowledge of the grocery sector, she only worked three days a week, and the GCA's other six core staff were required to be seconded from a public authority.[66] This statutory arrangement limits the GCA's ability to build in-house expertise by recruiting high-calibre individuals with industry knowledge and experience.[67] As such, in formulating the guidance on forecasting the GCA was highly reliant on the regulated retailers for information on how the different processes actually worked. As one Code Compliance officer explained:

> The GCA wanted from each of us a whole load of data, products, notice periods, forecasting periods, what these forecasts were and how that varied to the final order. It was quite complicated trying to explain or provide useful data. We dutifully provided

[62] Julia Black, 'Decentring Regulation: Understanding the Role of Regulation and Self-Regulation in a "Post-Regulatory" World' (2001) 54 Current Legal Problems 103, 107.
[63] Interview with Anonymous Retail Code Compliance Professional, 'Interview 13: CCO01' (28 September 2020).
[64] ibid.
[65] ibid.
[66] The Groceries Adjudicator Act 2013, Schedule 1, para 9(1).
[67] Tom Willis, 'Traidcraft submission to "Groceries Code Adjudicator Review: Part I"' (2017) 9. https://www.traidcraft.co.uk/media/8649c2eb-2a7a-4165-9922-dd3436b9650a

> that information. I think the GCA was probably a bit overwhelmed by the amount of data. My sense is that it was too much data for one person at the GCA to be able to manage.[68]

As Lange has pointed out, for powerful regulatees, 'legal rules are often seen as a raw material to be worked upon'.[69] It is not clear just how complex a picture of forecasting the regulated retailers presented to the GCA, but it would appear from the CCO's comment above that complexity was one factor responsible for the lack of detailed guidance on forecasting. However, it is also likely that the Adjudicator's preference for a cooperative approach also played a role.

The minutes of quarterly meetings held between the GCA and regulated retailers before the publishing of the 2018 guidance (December 2017 and March 2018) indicate that some retailers were not complying with the GCA's 2016 guidance on forecasting. As the minutes of the meeting held between the GCA and retail CCOs in December 2017 state: 'The GCA referred CCOs to her published best practice statement on forecasting and indicated that from the survey information received [from suppliers], it appeared that some retailers might not be following it'.[70] Further:

> The Adjudicator gave her view that there were a number of operational and supply chain practices that retailers needed to consider more closely in order to ensure they were operating in the spirit of the best practice statement. She would be writing to each retailer about this soon.[71]

Retail CCOs were asked to report to the GCA before the March 2018 meeting 'with information about how they had reviewed operational and supply chain practices with regard to the way they carry out forecasting and promotions activity and to further ensure they were operating in accordance with the published best practice statement on forecasting.[72]

Existing empirical studies have shown that where the law is ambiguous what counts as compliance is often contested and becomes a subject of negotiation between the regulator and regulatees.[73] The CCO meeting minutes indicate, at least implicitly, that there was some form of negotiation going on between the regulated retailers and the GCA. As illustrated in Chapter 2, a hallmark of the cooperative approach is to secure conformity by negotiating future

[68] Interview with Ward (n 29).
[69] Bettina Lange, 'Compliance Construction in the Context of Environmental Regulation' (1999) 8 Social & Legal Studies 549, 551.
[70] GCA, 'Meeting Record: December 2017 Meetings with Code Compliance Officers' (Groceries Code Adjudicator 2017) <https://www.gov.uk/government/collections/gca-meetings-with-code-compliance-officers#2018-meeting-records> accessed 13 May 2021.
[71] ibid.
[72] GCA, 'Meeting Record: March 2018 Quarterly Meetings' (Groceries Code Adjudicator 2018).
[73] See Lange (n 69).; Also see Hawkins (n 61).

compliance with the regulatee rather than using a more adversarial approach.[74] This might help explain the GCA's somewhat contradictory statement in the 2018 guidance that, despite the fact that suppliers were reporting compliance issues in terms of compensation for forecasting error, retailers' approaches to forecasting 'all appeared to be compliant with the code' and retailers were striving for continuous improvement in their forecasting practice.[75]

However, the problem with overreliance on cooperation is that it can lead to 'negotiated non-compliance', a form of creative compliance where the regulator views a regulatee as compliant, even though they continue to break the rules, provided the regulatee shows some commitment to the process of compliance.[76] Following the publication of the 2018 guidance, notwithstanding the fact that suppliers were still experiencing issues, compensation for forecasting error was downgraded in the GCA's list of priorities. The difficulties faced by the GCA in providing substantive guidance on compensation and the actions taken to try and improve compliance appear to fit the description of negotiated non-compliance. Because retailers have committed to improving their forecasting practices and guiding principles were agreed between the GCA and retailers, non-compliance, at least for a time period, appeared to be the negotiated outcome.[77] However, as one retailer CCO pointed out, the lack of substantive guidance leaves scope for freeriding; the lack of clarity might give less scrupulous operators the impression they can do anything they want, so long as it's not explicitly mentioned in the guidance.[78]

4.4.4. The Impact of GCA Regulation on Forecast Accuracy

The previous three sections have highlighted problems of clarity in the law. Nevertheless, as pointed out in Chapter 2, how regulatees respond to the underlying objectives of regulation also depends on other external and internal factors. The following three sections assess the impact of the GCA's regulation on the ground. Two key issues this research sought to probe with suppliers and retailers were: first, what degree of certainty is offered to suppliers by current retail forecasting practices, and second, and most importantly, how do these practices apportion the risks and costs of food waste caused by surplus availability between retailers and their suppliers. As will be argued below, from the sample of suppliers interviewed, although there have been some improvements in forecasting practice, suppliers are still

[74] Hawkins (n 61) 4.
[75] GCA, 'GCA Best Practice Statement: Forecasting and Promotions Including Taking Due Care When Ordering for Promotions' (n 56) 3.
[76] Gunningham (n 61).; Hawkins (n 61) 127.
[77] GCA, 'Annual Report and Accounts 1 April 2018 – 31 March 2019' (Groceries Code Adjudicator 2019) HC 2112 34.
[78] Interview with Retail Code Compliance Professional (n 65).

bearing a disproportionate share of the risks and costs of food waste caused by surplus retail availability.

This section is concerned with what suppliers are experiencing in terms of forecasting accuracy. The sections that follow then highlight some of the problems faced by suppliers in the timing of information provided and variation in retail forecasting practices. These problems illustrate how retail practices push the risk of surplus and food waste on to suppliers and highlight some of the problems with the GCA's guidance.

The majority of primary producers and food manufacturers interviewed complained that forecasting accuracy was the most significant cause of food waste in their operations. The interview data suggests that there have been some improvements in forecasting practice as a result of the GCA's regulation. Interview subjects felt that regulation by the GCA had made retail buyers much more careful about the way they deal with suppliers. As one supplier explained, 'in the past, rather than a written forecast, we only received a verbal promise from the retailer that they would take a certain volume … these promises were not always honoured'.[79] The supplier then stated, 'I think, buyers are more accountable now than they were. Now we get it in black-and-white, in a loosely contracted form. It's still slightly loose, but it's a lot better than it was'.[80]

Suppliers all agreed that the really poor historical practices had all but disappeared. For example, one grower confirmed:

> There were buyers in the past who were buying to make sure they have got enough, not necessarily worried too much about the supplier. They were over ordering, knowing that they were potentially over ordering. If they had a good season there was lots of extra product sold, which meant they could shine, because they might outperform in the category. But if it doesn't work, effectively we would foot the bill.[81]

Despite some improvement, suppliers complained that forecasting accuracy is still problematic. As a corporate supplier asserted:

> Supermarket forecasting, no matter what anybody says, has generally not at all improved over the last twenty-five years. … We have all the issues around fluctuating consumer demand, weather related steps, changing commercial imperatives within the retailers. Planning nine months, twelve months out for a promotion of a certain product

[79] Interview with Primary Producer, 'Interview 01: PP01' (n 14).
[80] ibid.
[81] ibid.

> and then changing it when that product has been grown for the promotion, all of that happens on a daily basis.[82]

The financial impact of forecast error was highlighted by a small grower who stated,

> It's absolutely critical that they take what they forecast, because that's what we're growing on, and that's what we're costing on. Now that the margins are so tiny, if they short us badly one week, all the profit for the season could be wiped out.[83]

In line with the GCA's earlier findings, the suppliers interviewed confirmed that forecasting for promotions was still particularly problematic. As one supplier explained, retailers are often poor at predicting uplifts in demand when products are put on promotion.[84] But even more challenging was forecasting demand in the period following promotion. One large food manufacturer complained that:

> Retailers are often too optimistic about the volume of sales following a promotion, for example, the retailer has predicted that following promotion, sales will resume at 20 percent of typical levels and gradually increase. However, in reality, sales drop by nearly 100 percent the day following the promotion, before gradually returning to normal.[85]

Because the volume uplifts associated with promotional activities are high, getting the forecast wrong can cause significant volumes of surplus product.[86] It is worth noting that suppliers do their upmost to mitigate the uncertainty created by orders that deviate from forecast volumes. Production lead times vary, but for all the primary producers and food manufacturers interviewed, the cut-off time for orders did not allow sufficient time to physically produce or harvest, pack and ship, according to the retailer's actual orders. The time between receiving an order and the product leaving the site was usually a matter of hours.

Late delivery into the retailer's depot usually means the supplier is charged a penalty.[87] According to one retailer, this charge is not intended to penalise the supplier, but to cover the costs associated with rebooking and managing late deliveries.[88] Nevertheless, late deliveries will impact on the supplier's service-level performance, and therefore suppliers are under pressure to ensure delivery schedules are met. Typically, suppliers hedge their bets by producing and packing between 60 and 80 per cent of the forecast volume in advance and

[82] Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[83] Interview with Primary Producer, 'Interview 01: PP01' (n 14).
[84] Interview with Anonymous Food Manufacturer, 'Interview 19: LFM05' (9 November 2020).
[85] ibid.
[86] ibid.
[87] Interview with Retail Code Compliance Professional (n 63).
[88] ibid.

topping this up once the confirmed order is received. However, despite hedging their bets, all the suppliers complained that changes in order patterns were still the biggest driver of surplus product and food waste in their operations.

These findings align with the 2020 YouGov supplier survey, where lack of compensation for wastage incurred as a result of forecasting error was top of the list of supplier issues.[89] There are a number of reasons for this, which, for the most part, can be attributed to the ambiguity in the Code and the GCA's corresponding lack of guidance around what a forecast actually is and the functions it must perform. A particular problem is a lack of clarity around when in the production cycle a retailer must provide a forecast and what information the forecast must contain.

4.4.5. Timing of Forecasts

One issue highlighted as an ongoing challenge by suppliers in the fresh produce sector was receiving forecasts in time to make informed decisions about production. Without a forecast, suppliers potentially expose themselves to high levels of risk when planning production, particularly when relying on historical sales data. Late forecasts create a lack of certainty at the various points when resources must be committed to production. On the issue of timing, interview subjects indicated there was considerable variability in practice between retailers.

One grower complained, 'everything tends to be last minute. They keep saying that they're going to try and improve, but it never really seems to happen'.[90] Another said, 'they will give us a programme, but we've not had it yet, and we'll be starting to plant the product next week'.[91] Production decisions are not limited to how much product to plant. A large grower complained, 'I've just committed to two and a half million quid's worth of rent, and I don't know, in theory, I shouldn't have done that because I don't have a purchase order to say, grow me this'.[92] One retail compliance professional stated that they worked with farmers well in advance of order dates.[93] However, later in the interview, they acknowledged the problem of forecast timing by saying, 'produce is on the shortest lead times, and that's where it's hardest for farmers, because they've got to predict, what the supermarket is likely to want when they are putting seeds in the ground'.[94]

Late forecasts mean growers are often forced to rely on figures from previous seasons, in effect doing their own forecasting. However, there is potential for error; one grower described

[89] GCA, 'Annual Report and Accounts 1 April 2019 – 31 March 2020' (n 7).
[90] Interview with Primary Producer, 'Interview 01: PP01' (n 14).
[91] Interview with Primary Producer, 'Interview 03: PP02' (n 25).
[92] Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[93] Interview with Retail Code Compliance Professional (n 63).
[94] ibid.

how they had based production on last year's sales, but unbeknown to them the retailer had reduced the product's allocated shelf space, meaning they had overproduced by a significant margin. The error caused food waste and had serious financial implications for the business.[95] Another problem with relying on historical sales data is that in the fresh produce sector there is no guarantee the supplier will be awarded the same contracts as previous years. Competition between retailers for ever-lower prices has meant retailers are more frequently tendering contracts in search of cost savings. As one supplier put it, 'they tender everything, and they keep tendering it. Sometimes we are on three-week tenders, you know, and you're trying to grow crops to a three-week tender, it's crazy. You might be in it in March, and in April, you might be out'.[96]

All the suppliers interviewed stressed the importance of relationships with retail buyers. Nevertheless, they also pointed out that historical sales volumes can also be undermined by retail policies on buyer rotation.[97] This is a common problem across all product categories. As one food manufacturer put it, 'retailers don't trust their own staff in relationships. So, every two years they change them around, so you might get someone from vegetables now buying the meat, and they have no idea'.[98] This can create breakdowns in the relationship, especially if a new buyer tries to assert their authority by demanding price reductions or changing product specifications.[99] One supplier described how they had lost the majority of their business with a major retailer following a change in buyer.[100]

The important point in relation to timing of forecasts is that without a forecast, suppliers can expose themselves to high levels of risk when planning production based on historical sales data. Nevertheless, if they do not make any production decisions until they receive a forecast, they run the risk of having nothing to supply, and therefore, have no chance of meeting retail service levels.

4.4.6. Variation in Forecasting Practice

The way forecasts are communicated to suppliers also has implications for how the risks and cost of supply are distributed. As the GCA's guidance makes clear, there is a great deal of variation between retailers in terms of forecasting practice (even when Code compliant).[101]

[95] Interview with Primary Producer, 'Interview 03: PP02' (n 25).
[96] Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[97] Interview with Anonymous Food Manufacturer, 'Interview 16: LFM03' (15 October 2020).; Interview with Primary Producer, 'Interview 01: PP01' (n 14).
[98] Interview with Food Manufacturer, 'Interview 16: LFM03' (n 97).
[99] ibid.
[100] ibid.
[101] GCA, 'GCA Best Practice Statement: Forecasting and Promotions Including Taking Due Care When Ordering for Promotions' (n 56) 3.

This section highlights how the risk of surplus and food waste is pushed on to suppliers by retail forecasting practices.

In some cases, growers stated that retail forecasts were little more than a promise (in writing) to give them similar volumes to last year.[102] One retailer's forecasting practice was described as nothing more than, 'we are going to give you x depot this year, and last year we sold a million units, but we expect to trade up a bit this year, say 15 percent'.[103] In this case, the supplier has an overall volume to work with, yet the retailer had not given any breakdown in terms of how that volume should be allocated across the season. Without more information, the responsibility and risk for planning the season's production volumes are assumed by the supplier. In this scenario, the overall volume might be correct, but the grower risks potentially producing surplus some weeks and incurring the cost of food waste, while in others underproducing and failing to meet the required retail service level.

Some retailers will give the supplier a breakdown of forecast volume by week. A three-month rolling forecast was one method described as typical for providing demand-side information to suppliers.[104] As one retailer explained:

> You start with a rolling forecast, sort of three months out, so [suppliers] will see what the forecast is likely to be. That is then updated on a rolling basis, week after week and then at the critical point an order is placed, which is obviously the latest forecast. So, the day before, you have a forecast and then the next day it translates to an order and that is then what the supplier is required to deliver.[105]

While this system provides more information for suppliers, it does not necessarily translate into a higher degree of certainty. Volumes are subject to change weekly (or even daily) in the period after the supplier has already committed to produce a particular quantity as the retailer is better able to predict inventory levels and the possible impact of weather.

The scenario in Table 4.1 below might be helpful in terms of thinking about the accuracy of rolling forecasts. A retailer provides a rolling forecast for broccoli. The forecast is first provided to the grower 12 weeks out from the date of order. The forecast is updated on a weekly basis.

[102] Interview with Primary Producer, 'Interview 01: PP01' (n 14).; Interview with Primary Producer, 'Interview 03: PP02' (n 25).; Interview with Poskitt (n 10).
[103] Interview with Poskitt (n 10).
[104] Interview with Retail Code Compliance Professional (n 63).; Interview with Ward (n 28).
[105] Interview with Retail Code Compliance Professional (n 63).

Table 4.1 Rolling Forecast scenario

Weeks to Dispatch	**Forecast Qty**	**Comment/Farmer input**
12	10,000	Farmer commits to seed purchase.
11	10,000	
10	10,000	
9	10,000	
8	10,000	Farmer plants crop in the field.
7	10,000	
6	10,000	
5	10,000	
4	8,000	
3	8,000	
2	7,000	
1	7,000	Farmer plans to pick 1000 heads per day, labour is organised accordingly.

At week 0, the farmer receives daily confirmed orders 12 hrs before dispatch to depot.

WK	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
0	1000	600	800	1000	1400	1200	1000	7000

At the time of harvest, the market price for broccoli is poor, so the farmer decides not to pick the 3000 surplus heads remaining in the field and instead ploughs them into the ground. Therefore, the farmer has incurred cost and food waste as a result of relying on the forecast. The question is, is this a forecast error, and if so, should it be compensated under the Code?

If forecast accuracy is calculated at the time the farmer commits to production, there is an error of 3000 heads of broccoli (30 per cent). However, at the time confirmed orders are placed the rolling forecast is 100 per cent accurate. If, when calculating forecast accuracy, volumes are permitted to change after the production lead time has passed, the forecast offers little certainty for the grower.

This scenario highlights the problem with the GCA's guidance stating that all retailer approaches to forecasting appear to be Code compliant despite some not making any clear distinction between a forecast and an order. Based on the GCA guidance, in this case a rolling forecast is compliant; whether there is a forecast error depends on whether the due care test

was met, i.e., the retailer failed to collaborate with the suppliers to reach agreed volumes or, failing that, the supplier was not given the opportunity to question the forecast.[106]

4.4.7. Supplier Input into the Forecasting Process

The importance of collaboration in reaching accurate forecasts is highlighted in the supply chain literature.[107] However, as noted above, in relation to the due care test, it is not clear when collaboration is required to reach agreed volumes or when simply giving the supplier an opportunity to question the accuracy of the forecast is sufficient. In terms of the latter, it is important to note that depending on the size and type of business, the suppliers sampled had varying capabilities.

Smaller primary producers tended to have one person who communicated directly with the buyers on forecast volumes. In this case, information asymmetries make it hard for the supplier to properly determine the accuracy of forecasts.[108] For example, smaller suppliers were less aware of volume supplied by competitors. This makes questioning changes in volume difficult, as the retailer may have switched volume from one supplier to another.

Larger suppliers, both primary producers and food manufacturers, had their own forecasting teams within the business. The larger fruit and vegetable suppliers interviewed tended to provide supermarkets with a year-round supply of a range of produce. Therefore, alongside growing crops themselves, they packed and/or traded products grown by smaller farmers in the UK as well as from international sources, some as far away as South America and New Zealand. This is quite a logistical challenge. As such, these suppliers had very sophisticated forecasting capabilities. Larger suppliers also tended to have an in-depth awareness of the market gained through purchasing retail sales data from information platforms.[109] Therefore, they were aware of the volumes and prices of specific products being sold by each retailer. This means large suppliers have both the capability for meaningful collaboration with retailers on forecasting and the ability to spot errors. Bearing in mind supplier capability and the requirement for retailers to meet the 'due care test' set out above, it was important to understand what level of input into the forecasting process suppliers were actually experiencing on the ground.

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[106] GCA, 'GCA Best Practice Statement: Forecasting and Promotions Including Taking Due Care When Ordering for Promotions' (n 56) 4.
[107] Helena Forslund and Patrik Jonsson, 'The Impact of Forecast Information Quality on Supply Chain Performance' (2007) 27 International Journal of Operations & Production Management 90, 92.
[108] Interview with Primary Producer, 'Interview 01: PP01' (n 14).; Interview with Primary Producer, 'Interview 03: PP02' (n 26).
[109] Retail sales data can be purchased from platforms such as Kantar Interview with Primary Producer, 'Interview 11: PP07' (n 9).

From the sample of suppliers interviewed, the level of input into forecasting appeared to vary significantly across different retailers. When asked what input they had into the forecasting process, supplier answers ranged from 'we have none' to 'we are talking to the retailer all the time.'[110] Inconsistencies were also found within different buying categories of the same retailer. In relation to one specific retailer, while one supplier said there was a lot of to-ing and fro-ing with the buyer in relation to forecasts[111], another stated, 'in terms of forecasting, all they can say to us is we're gonna give you this depot and that depot, and last year those depots sold x'.[112]

It might be understandable if retailers felt that less collaboration was necessary with smaller producers where the producer is one of many suppliers of a product. However, variation was not limited to size; larger producers also experienced significant differences. One large vegetable supplier explained that with some retailers there is very little collaboration, but 'with the best of them, we have a very good interaction with their merchandisers and their forecasters will listen to what we're saying, and they will put some changes in place'.[113] For this supplier, the level of collaboration experienced depended on two factors. First, the extent to which the retailer relied on automated forecasting systems. Second, and most importantly, the relationship between their in-house forecasting team and the retailer's merchandiser.[114] A strong relationship facilitates frequent communication on issues such as weather-related changes and order reductions following promotions. These are areas where automated ordering systems often cause errors.[115] In terms of collaboration, the fact that there is variation both across and within different retailers indicates that the management style of businesses and the commitment of individual buyers and merchandisers to communicate with suppliers is playing a key role. The extent to which retailers and their suppliers actually do collaborate to reach agreed forecast volumes seems to depend in large part on these relationships.

From the interview data, it is clear that some retailers do not collaborate with suppliers to reach agreed volumes. However, all suppliers stated they were given the opportunity to question forecasts they view as inaccurate; yet again there was variation across retailers in terms of their response. One grower stated, 'generally we would have a reasonable relationship with Tesco's and with Sainsbury's whereby you can influence what they're doing, Asda and Morrisons less so, they're more, how do I put it, more confident in their own abilities'.[116] In terms of the due care test, what happens when a supplier challenges the forecast, but the

[110] ibid.; Interview with Primary Producer, 'Interview 01: PP01' (n 14).; Interview with Poskitt (n 10).
[111] Interview with Primary Producer, 'Interview 03: PP02' (n 25).
[112] Interview with Poskitt (n 10).
[113] Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[114] ibid.
[115] ibid.
[116] ibid.

retailer does not make any change and then fails to take the forecast volume is not clear. Nevertheless, assuming the due care test is not met, the question was then whether suppliers were prepared to seek compensation.

4.4.8. Seeking Compensation for Forecast Error

Where forecasting error had caused significant surplus or waste, most suppliers said issues could usually be resolved amicably with the buyer. However, some suppliers stressed that it depended on 'what retailer it was, what buyer it was, what kind of year it was, as to whether or not you might actually recoup that cost'.[117] As one food manufacturer put it, 'the retailers are getting a lot better, but in the end, if they don't want something they'll find a way of not taking it'.[118] Where orders were significantly down on forecast, there did not appear to be any reluctance on the part of suppliers to engage with their buyers. However, resolution was not usually 'full compensation for any cost incurred by the supplier as a result of the forecasting error', as required by the Code.[119] Resolutions varied: for example, the buyer might offer to split the cost, give the supplier increased volume next season, or even add a couple of pence on to next year's price.[120] But when a resolution was not forthcoming, some of the suppliers interviewed appeared very reluctant to take a complaint over the buyer's head to the retailer's CCO or the GCA.

As highlighted above, lack of compensation for forecasting error was the top supplier issue identified in the YouGov supplier survey for 2020. However, despite this, the retailers interviewed stated that forecasting was not an issue that suppliers often raised with CCOs.[121] One CCO explained that 'complaints raised by suppliers tend to be very largely limited to issues around delisting, or where there has been a mix up over payment. Very rarely would a supplier come and talk to us about an issue like forecasting'.[122] Nevertheless, the retail CCOs interviewed fully acknowledged the existence of a 'climate of fear' around making complaints.[123]

4.4.8.1. Barriers to Seeking Compensation for Forecasting Error

[117] Interview with Primary Producer, 'Interview 01: PP01' (n 14).; Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[118] Interview with Food Manufacturer, 'Interview 19: LFM05' (n 84).
[119] The Groceries (Supply Chain Practices) Market Investigation Order Part 4 (10) (1).
[120] Interview with Primary Producer, 'Interview 01: PP01' (n 14).
[121] Interview with Ward (n 28).
[122] ibid.
[123] ibid.

From the supplier side, there were a number of reasons given for reluctance to complain about forecasting accuracy. First, there was a real fear of damaging the relationship with the buyer. Second, some suppliers seemed to accept that consumers, rather than retailers, were responsible for weather-related demand fluctuations. Third, suppliers perceived that a failure to deal with the surplus created by surplus retail availability meant their business model was wrong. However, there are also practical difficulties, and although suppliers did not explicitly acknowledge problems of quantification, conversations around measuring waste indicated that some primary producers might not fully comprehend the scale of their food waste and the financial implications.

The 2020 YouGov survey found that 55 per cent of suppliers would not raise an issue with the GCA, or were unsure whether they would do so, because they either feared the retailer would find out and there might be adverse consequences or felt that they could simply address the issues themselves.[124] In relation to making a complaint, this research also found that suppliers were split on the issue. Some said they would complain to the GCA if they thought a retailer was not 'playing the game', but others were concerned that making a complaint to the GCA would cause harm to the trading relationship. Both primary producers and food manufacturers stressed the importance of maintaining good relationships with retail buyers. Suppliers recognised that the Code provision on delisting meant they could not be dropped as a supplier for making a complaint. Nevertheless, there was a real fear that a complaint would have financial implications; perhaps not immediately, but volumes might be gradually reduced so they are, in effect, traded out of the retailers supply chain.[125] For many suppliers a complaint to the GCA was seen as the last resort, something to be considered only if they had been left with significant amounts of waste and the relationship with the retailer was already at the end of the road.[126]

When questioned about making an anonymous complaint to the GCA, suppliers perceived that the GCA might disclose the product they were supplying, which would alert the buyer to who had made the complaint. However, retail CCOs indicated that this fear was perhaps unfounded.[127] Retailers indicated that the GCA is very careful not to disclose information that might identify a complainant. Typically, the retail CCO will get a clear description of the section of the Code in question and what the supplier is complaining about, but no information on what sector or product the complaint relates to.[128] But here lies the problem; although anonymity is

[124] Groceries Code Adjudicator, 'Annual Report and Accounts 1 April 2019 – 31 March 2020' HC 349, 23 June 2020, 31.
[125] Interview with Primary Producer, 'Interview 01: PP01' (n 14).
[126] Interview with Primary Producer, 'Interview 03: PP02' (n 25).
[127] Interview with Retail Code Compliance Professional (n 63).
[128] Interview with Ward (n 28).

maintained, the dearth of information makes resolution in the suppliers favour unlikely. Frustratingly, from the supplier's perspective nothing is likely to happen; this frustration was shared by CCOs.

Retail compliance professionals came across as genuinely concerned that Code breaches were addressed. However, CCOs admitted that without the name of the supplier it was difficult to do anything specific.[129] One CCO stressed that if complaints were made directly to them, they were much better placed to resolve them, and that they went to great lengths to ensure that the complainant's identity was not disclosed to the commercial team.[130] Nevertheless, it is difficult to see how this could be avoided, as buyers are likely to be well aware of any potential Code breaches between themselves and their suppliers, so the issue of anonymity is circular. Of course, if enough anonymous complaints are made in relation to a particular retailer, the GCA will have grounds to launch an investigation. But for some suppliers, the perception is that there is very little to gain by making a complaint. As one large food producer puts it, 'at the end of the day, if the retailers don't want to take it, they're not going to take it. No code of practice is going to make them take it'.[131]

In terms of the GCA's suggestion that retailers should offer compensation for forecast errors, none of the suppliers interviewed had ever been offered any compensation. From the retail side, one CCO said they were only aware of compensation being paid in 'extreme cases, because with a *rolling forecast*, it is rare that there is any real error'.[132]

4.4.8.2. Managing Retail Surplus Availability

The research found that another reason for not seeking compensation for inaccurate forecasting is supplier perception that consumers, not retailers, are to blame for demand-side fluctuations. The suppliers interviewed all agreed that the principal cause of food waste was the weather. As one farmer put it:

> If it's sunny they go to the shop and buy a BBQ, sausage and kebabs, but if it's raining, they don't give a damn about it. So, it's all, in my view, customer led. Customers demand availability and I think that's the biggest driver of food waste. Retailers can't be held responsible for the weather, can they.[133]

Therefore, responsibility for demand-side fluctuation is attributed to fickle consumers, rather

[129] Interview with Retail Code Compliance Professional (n 63).; Interview with Ward (n 28).
[130] Interview with Ward (n 28).
[131] Interview with Anonymous Food Manufacturer, 'Interview 12: LFM02' (10 September 2020).
[132] Interview with Retail Code Compliance Professional (n 63).
[133] Interview with Poskitt (n 10).

than retailers attempting to maximise sales through high levels of availability. For suppliers, because retailers are not, in a moral sense, to blame, they appear to accept all the risk of surplus availability, rather than it being shared with the retailer. The GCA guidance states that the risks and costs of demand fluctuations should be fairly shared, 'especially where weather is a significant influencing factor'.[134] However, one retail compliance professional stated, 'if you go to the pure regulation, that the forecast has got to be done with due care and attention, changes of weather would not classify into that, that is a fact of life'.[135] For suppliers, the reality is that there will always be discrepancies between retail forecasts and actual orders. As a large supplier put it, 'we would have an event every week of every year where somebody's not taken what they've supposed to, but you learn to manage it'.[136]

For suppliers, managing demand fluctuation means having a business model that allows for the flexibility to push and pull products between different customers and thereby minimise the potential for surplus product to become waste.[137] Nevertheless, even when food waste is avoided, the supplier may still incur costs. These costs might include additional packaging, labour and transport costs, depending on the final destination of the product, or lost revenue if the receiving customer pays a lower price.[138] In the grand scheme of things, the cost of one forecasting error might be relatively small, but the frequency of error experienced by suppliers indicates that, cumulatively, the financial impact is significant.[139]

Supplying retailers with perishable products is a fast-moving environment, and this creates practical difficulties in terms of tracking surpluses, waste and associated costs. While all suppliers claimed to have a good handle on waste levels for individual products, where multiple retailers were supplied, they were not able to attribute levels of waste to individual retail customers, let alone the costs of moving product between them.[140] This is another factor that makes claiming compensation for forecasting error problematic. To make a claim, the supplier would need to calculate the value of the surplus created by the customer's error and then reconcile that against the revenue earned, less any additional costs incurred to move the product on, not to mention any product wasted or redistributed. Taking this into account, it is not surprising that suppliers tend not to make complaints about forecasting error. However, as

[134] Grocery Code Adjudicator 'GCA Best Practice Statement: Forecasting' March 2016, 3.
[135] Interview with Retail Code Compliance Professional (n 65).
[136] Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[137] ibid.; Interview with Primary Producer, 'Interview 01: PP01' (n 14).; Interview with Poskitt (n 10).; Interview with Anonymous Primary Producer, 'Interview 05: PP03' (16 April 2020).
[138] Interview with Primary Producer, 'Interview 01: PP01' (n 14).
[139] Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[140] Interview with Primary Producer, 'Interview 05: PP03' (n 137).; Interview with Food Manufacturer, 'Interview 19: LFM05' (n 84).

a result of the difficulties described above, the risk and costs of retail-driven surplus availability in the supply chain, and the food waste this causes, are disproportionately borne by suppliers.

Before moving away from forecasting issues, the final point to make is that the GSCOP only covers direct retail suppliers. Considering that the market is dominated by large suppliers who in turn purchase product from others both in the UK and abroad, the threat remains that risks and costs of surplus and waste are then pushed onto indirect suppliers. In fact, the majority of farmers do not supply supermarkets directly.[141] One food waste activist stated that there was anecdotal evidence indicating that indirect domestic and overseas suppliers were experiencing higher levels of unfair trading practices than those covered by the GCA's regulation.[142] This gap in the reach of the GCA regulatory regime has been addressed by the Agriculture Act 2020, which contains provisions intended to increase the coverage of unfair trading practice regulation in the farming sector. The Act allows the Secretary of State to introduce further sector-specific statutory codes to regulate contractual conduct between farmers and the first purchaser of agricultural products, broadly similar to those in place under the GCA regime.[143] However, at the time of writing, the powers afforded to the Secretary of State have yet to be exercised.

4.5. The GCA's Communication Regulation

The information obtained through the YouGov surveys also enables the GCA to use a second form of regulatory instrument – communication. Communication, or information-based, regulation attempts to engage with the businesses' social licence and can be very effective in regulating reputation-sensitive businesses.[144] However, as will be argued below, the GCA does not use its communication regulation as effectively as it could. The publicly available information does not allow investors, consumers and civic society to adequately rank and compare the regulated businesses.[145] There appears to be some tension between using communication regulation to enhance regulatee compliance and portraying the GCA as an effective modern regulator.

Information-based regulation comes in a number of forms, but disclosure of information about

[141] Tom Wills, 'Traidcraft Submission to Groceries Code Adjudicator Review: Part I' 13.; Also see EFRA, 'Scrutiny of the Agriculture Bill: Tenth Report of Session 2017–19' (House of Commons Environment, Food and Rural Affairs Committee 2018) HC 1591 18.
[142] Interview with Food Waste Activist (n 20).
[143] Agriculture Act 2020 Part 3, Section 29. Also see Defra, 'Our Waste and Resources: A Strategy for England' Crown copyright 2018. 105.
[144] Neil Gunningham and Darren Sinclair, *Leaders and Laggards: Next-Generation Environmental Regulation* (Greenleaf Publishing 2002) 122.
[145] Daniel C Esty and Quentin Karpilow, 'Harnessing Investor Interest in Sustainability: The Next Frontier in Environmental Information Regulation' (2019) 36 Yale Journal on Regulation 625, 626.

business practices usually takes the form of voluntary or mandatory disclosure schemes.[146] In this case, however, the information disclosed does not come from the regulated retailers (voluntarily or otherwise); instead, it comes anonymously from their suppliers. The GCA publishes three league tables based on the information provided by YouGov: an overall assessment of retailer's compliance with the Code; the extent to which suppliers believe the trading relationship with a particular retailer is conducted in good faith and without duress; and a table that shows whether suppliers believe that retailers' trading practices have improved over the previous twelve months.[147] An aim of this research was to ascertain what impact the GCA's communication regulation is having on the regulated retailers.

The final section of this chapter explores supplier and retailer perceptions of the impact of GCA's communication regulation. The section then points out a conceptual flaw in the way that the GCA calculates retailer's compliance that inhibits the potential effectiveness of this regulatory instrument.

4.5.1. Supplier Perceptions of the GCA's Communication Regulation

The suppliers interviewed saw the GCA's use of communication regulation as a very important means for putting the spotlight on retailers who were treating there suppliers poorly. All the suppliers interviewed felt that retailers were genuinely concerned about their position on the GCA's league tables.

As one farmer put it:

> I think it is very important, because they don't like bad news, bad news sells newspapers. They don't like to be bottom of the list, because it'll be in the farming press and the next thing it's in the national press … [that] they've looked after their suppliers worse than anyone else, and they don't like that.[148]

[146] Bronwen Morgan and Karen Yeung, *An Introduction to Law and Regulation: Text and Materials* (Cambridge University Press 2007) 96–103.
[147] See GCA - Annual Survey 2018 19-21. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/721703/GCA_Annual_Sector_Survey_2018_-_the_results.pdf
[148] Interview with Poskitt (n 10).

Interestingly, some suppliers linked the league table results to quick resolution of issues. As one supplier who had also worked in retail stated:

> Working in two different retailers, if they're slipping down the table, or if they're at the bottom, they do take it really seriously. So, hence the phone call from Christine about an issue is taken very seriously and resolved very quickly. They don't want their names dragged through the mud.[149]

In terms of the impact of survey results, another supplier pointed out that:

> The retailers listen when that feedback comes in and they will work hard. You can see how when they've been down, they've worked hard to get from bottom to top, and they've done reasonably well at that. They don't like being seen as being too far down that path [of treating their suppliers poorly]. They like to be seen as the saviours of the nation because they're feeding the nation.[150]

One supplier pointed out that many retailers were now conducting their own anonymous supplier surveys to highlight areas where improvement was required, rather than have them exposed by the GCA's supplier survey.[151] In general, although it is difficult to establish any causal link, there was a sense among suppliers that this form of information-based regulation enhanced compliance with the Code and contributed to a greater sense of fairness between retailers and suppliers.

4.5.2. Retail Perceptions of the GCA's Communication Regulation

This research has found that the GCA's communication regulation is taken extremely seriously by retailers. Retailers are very concerned that bad publicity resulting from the GCA's information-based regulation will impact negatively on stakeholders, particularly investors. In relation to communication regulation and risk, one retailer talked about the idea of a glass box company, stating that increased transparency means that:

> You can't anymore get away with saying one thing internally and doing something else externally. … the idea that you can sort of tout your environmental credentials, you know, in a full-page advert, while at the same time, be chucking away millions of tonnes of food. I mean, the days of being able to sort of, say one thing and do something else,

[149] Interview with Anonymous Primary Producer, 'Interview 31: PP08' (29 January 2021).
[150] Interview with Primary Producer, 'Interview 11: PP07' (n 9).
[151] Interview with Primary Producer, 'Interview 01: PP01' (n 14).

> I think, are truly over. You just can't get away with that anymore, particularly if you're a large retailer. … There is a confluence of thinking between political stakeholders, customers, NGOs, ESG investors and employees themselves. … For most people, you know, there's strong alignment there.[152]

In terms of impact, the compliance professionals interviewed confirmed that the results of the GCA's supplier survey are taken very seriously. As one retailer put it, 'It goes all the way to our audit risk committee, so it is read and reviewed all the way to the top'.[153] Tesco's CCO confirmed,

> The survey is discussed with our executive subcommittee, as it deals with risk and compliance, it's discussed at board level. So, I report to our audit committee twice a year, the chairman of the board is a member of the audit committee along with the CEO, the CFO, you know, half of the board sit on the audit committee; it's taken very, very seriously.[154]

Nevertheless, Tesco's CCO also pointed out the subjective nature of the supplier survey, stating:

> No regulator who comes from a legal or economics background would ever think of doing something like that, because it's so subject to the vagaries of how you ask the question and who [within the organisation] answers it. It's only perception data, it's not actual hard economic data'.[155]

In that sense, the GCA's form of communication regulation appears to be unique. However, despite the subjective nature of the survey, the retailers interviewed tended to agree that their place on the league tables was a fair reflection of how they treated their suppliers.[156]

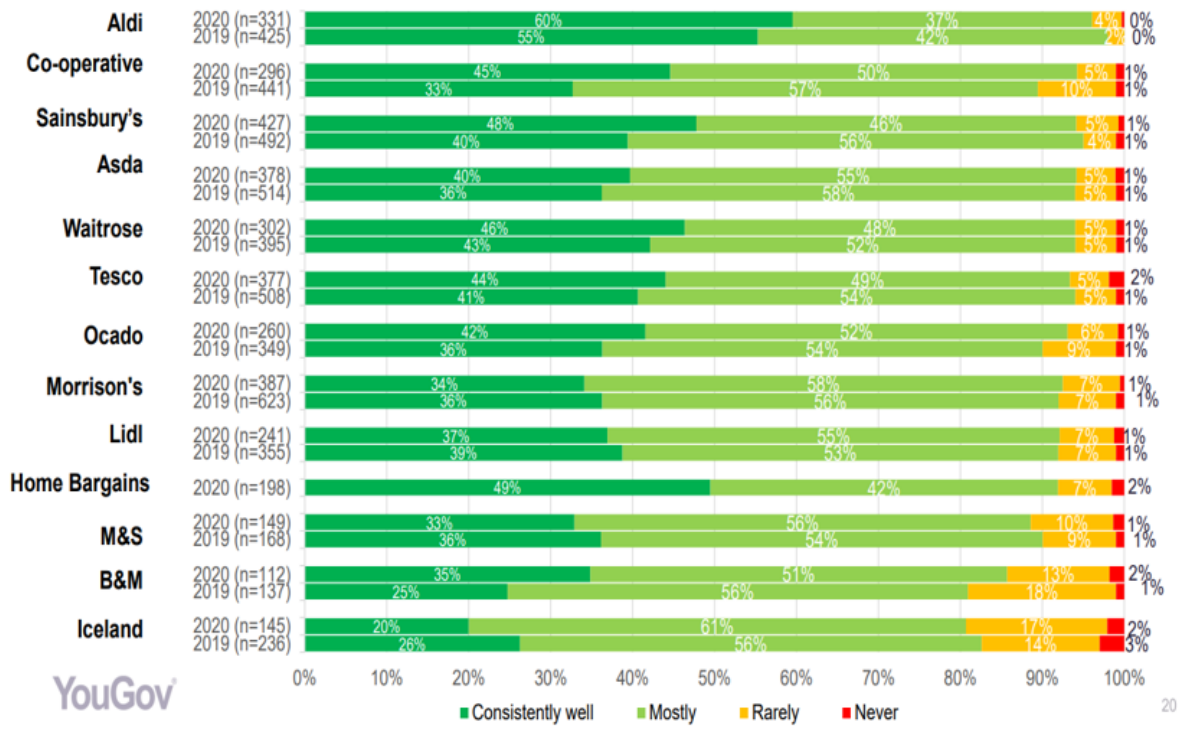
The retailers interviewed were not concerned about their current compliance ratings. This is no surprise, considering their compliance scores were all in the range of 89 to 94 per cent. Nevertheless, there are some quite problematic flaws in the way the GCA presents the information it possesses. As Tesco's CCO pointed out, the value of the GCA's table assessing

[152] Interview with Ward (n 28).
[153] Interview with Retail Code Compliance Professional (n 63).
[154] Interview with Ward (n 28).
[155] ibid.
[156] ibid.; Interview with Retail Code Compliance Professional (n 63).; Interview with Robert Bailey, 'Interview 20: RET01 Marks & Spencer' (21 November 2020).

‘Overall compliance with the Code’ ‘has to some degree run its course, because you’ve got this sort of bunching of, I think there's eight retailers that have a sort of positive score of 92 to 94 per cent; you can’t really get much higher’.[157]

Table 4.2 below is extracted from the YouGov 2020 supplier survey that ranks the regulated retailers according to the GCA’s ‘Overall assessment of their compliance with the Code’.

Table 4.2: Overall assessment of retailers’ compliance with the Code.



The reason for this bunching of scores is the way that the GCA calculates overall Code compliance. Retailers’ overall compliance is calculated by adding together the percentage where suppliers perceive the retailer complies consistently well with the Code and the percentage where they mostly comply with the Code. The overall compliance figures are presented in the GCA’s annual reports. Table 4.3, below, is extracted from the GCA’s 2019-2020 annual report and shows the regulated retailers’ overall code-compliance scores and how these have in a sense been jacked up by the GCA’s regulation. Certainly, the ‘overall compliance figures’ indicate that the GCA has been extremely effective in terms of getting regulatees to comply with the GSCOP. As one retail compliance professional pointed out, ‘This

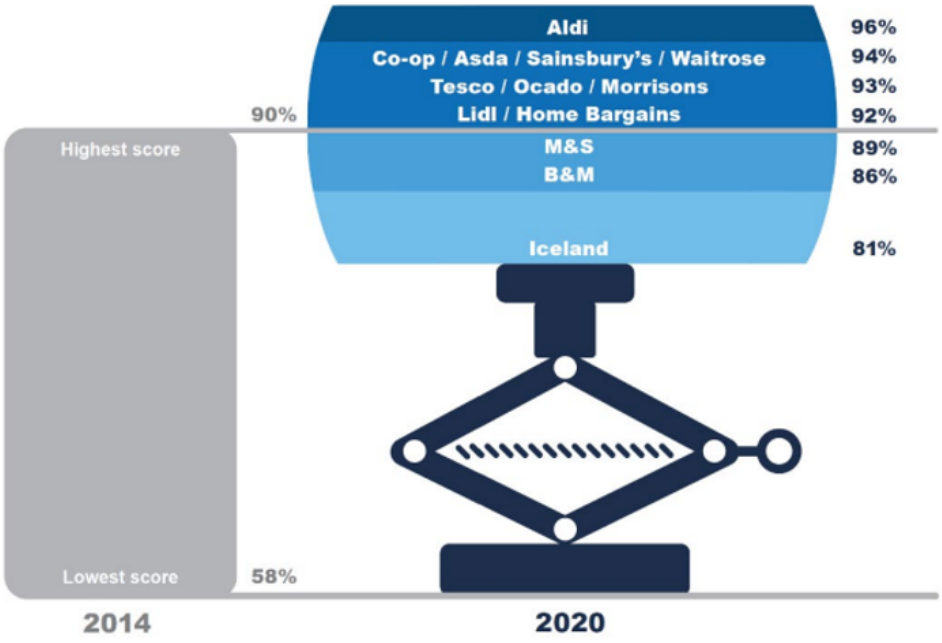
[157] Interview with Ward (n 28).

is gold dust for any politician who wants to show that regulation works'.[158] This includes the regulator, as the outgoing Adjudicator Christine Tacon proudly stated:

> In 2020, only three of the 13 regulated retailers are below 90%, the best score in 2014; nine are between 94% and 92%. This squeezing of performance into significantly higher levels of compliance is testament to the effectiveness and impact of my collaborative approach.[159]

This depiction of greatly improved compliance certainly contributes to the GCA's reputation as an 'exemplary modern regulator with an international reputation.'[160]

Table 4.3: Compliance Improvement 2014–2020.



However, conceptually, there is a problem with calculating overall compliance by simply adding these two factors together. In doing so equal weight is given to regulatees' endeavours to comply 'consistently well' with the Code and the corresponding effort involved in 'mostly' complying with it. What counts as 'mostly' compliant is unclear, but obviously it falls short of consistent application of the Code. As illustrated by Table 4.3 above, the GCA's assessment of overall compliance does not only make it difficult to differentiate between retailers; perhaps more worryingly, it masks some stark differences in performance. For example, if you compare

[158] ibid.
[159] GCA, 'Annual Report and Accounts 1 April 2019 – 31 March 2020' (n 7) 9.
[160] GCA, 'Annual Report and Accounts 1 April 2017 – 31 March 2018' (n 51) 7.

the overall compliance of Aldi (96 per cent) and Morrisons (93 per cent) there is only a three-point difference, despite the fact that suppliers perceive Aldi to comply consistently well almost twice as often as Morrisons. Theoretically, it seems entirely possible for a retailer to treat suppliers unfairly whilst complying with the majority of Code provisions most of the time. The notion that you can be awarded the same compliance score for 'mostly' complying with the Code, as opposed to consistently complying with it, is creative to say the least, and seems to support the concept of negotiated non-compliance. Arguably, far too much weight is being given to the percentage of time that suppliers perceive retailers to mostly comply with the Code.

As Yeung has pointed out, 'public communications management techniques may be used as a tool for a variety of purposes'.[161] If the intention of publishing this league table is to demonstrate the effectiveness of the GCA's regulation, this purpose is well-served. However, if the objective is to use this information to further compliance by engaging the social licence of regulatees, then what is required is 'publicly accessible data that allows investors, consumers and civic society to rank and compare the regulated businesses'.[162] This means providing a metric that is capable of clearly distinguishing the leaders from the laggards.[163] A review of the GCA's overall compliance ratings from 2015–2020 indicates that where there has been greater differentiation, particularly between the big four supermarkets, this has led to articles being published in the mainstream media chastising the retailers for their poor treatment of suppliers.[164] The league tables also show a corresponding improvement by the retailers singled out in the years following the bad publicity. However, with the current bunching of retailers between 92 and 94 per cent 'overall' compliant there has been a relative silence in the mainstream media. If the GCA's information regulation is to continue to have an impact on the regulatees' social licence, it is suggested that either the method of calculating overall compliance needs to be adjusted or other factors brought into play.

[161] Karen Yeung, 'Government By Publicity Management: Sunlight or Spin?' [2005] Public Law 360, 382.
[162] Esty and Karpilow (n 145) 626.
[163] ibid 630.
[164] See, for example, Simon Neville, 'Tesco is the worst big supermarket for treating suppliers fairly, according to watchdog' *The Independent* (London, 23 June 2015). Available at https://www.independent.co.uk/news/business/news/suppliers-still-unhappy-tesco-s-deals-says-watchdog-10337923.html; James Hurley, 'Morrisons treats suppliers the worst' *The Times* (London, 28 June 2016). Available at https://www.thetimes.co.uk/article/morrisons-treats-suppliers-the-worst-k9lk96wkn; Sarah Butler, 'Asda named worst supermarket in treatment of suppliers' *The Guardian* (London, 26 June 2017). Available at https://www.theguardian.com/business/2017/jun/26/asda-supermarket-suppliers-walmart-morrisons; It is interesting to note that the mainstream media tends to focus on the position of the big four supermarkets, Tesco, Sainsburys, Asda and Morrisons. Asda is singled out in the Guardian headline in 2017, despite Iceland being in last place in the survey.

One way to improve engagement with the retailers' social licence would be to make accessible information on where regulatees are not perceived as complying with the Code. This information is obtained by the GCA in the supplier survey and published (see Table 4.4 below). The problem is the retailers are anonymised, with the information known only to the retailers and the GCA.

Table 4.4: Code-related issues experienced by direct suppliers (by retailer).

	Retailer 1	Retailer 2	Retailer 3	Retailer 4	Retailer 5	Retailer 6	Retailer 7	Retailer 8	Retailer 9	Retailer 10	Retailer 11	Retailer 12	Retailer 13
Incurring significant costs when cause is inaccurate forecasting by the retailer	5%	7%	2%	10%	4%	2%	5%	7%	8%	7%	7%	5%	12%
De-listing, including significant reduction in volume without giving reasonable notice	2%	6%	4%	6%	2%	8%	2%	7%	6%	5%	3%	3%	8%
Inadequate processes and procedures in place to enable invoice discrepancies to be resolved promptly	3%	2%	0%	7%	5%	1%	10%	6%	5%	5%	2%	2%	10%
Requirement to predominantly fund the cost of a promotion	4%	2%	1%	5%	8%	2%	1%	7%	5%	6%	0%	7%	4%
Not allowing time to challenge proposed invoice deductions, or deducting even if challenged	3%	2%	0%	4%	2%	2%	6%	4%	2%	3%	1%	2%	5%
Data input errors not resolved promptly	2%	1%	1%	5%	1%	1%	5%	4%	3%	3%	2%	2%	6%
Retrospective changes to supply agreements	2%	5%	1%	2%	2%	1%	2%	3%	4%	2%	2%	2%	6%
Undisputed invoices not paid according to agreed terms	1%	3%	0%	3%	4%	0%	6%	3%	3%	2%	1%	1%	3%
Variation of supply chain procedures without reasonable notice	1%	4%	1%	3%	1%	1%	4%	3%	2%	2%	1%	1%	5%
Drop and drive: delays in, or not receiving, payment when there are disagreements over deliveries	0%	1%	0%	3%	1%	1%	4%	3%	4%	3%	1%	1%	6%
Unfair, unreasonable or unexpected charges for artwork and design	2%	2%	0%	2%	0%	0%	2%	3%	2%	1%	8%	3%	8%
Unilateral changes to supply agreements/terms of supply by retailers without sufficient notice	2%	4%	0%	3%	0%	1%	1%	3%	3%	1%	2%	1%	6%
Running a promotional activity which varies from that agreed in length, positioning, distribution or type at supplier's cost	2%	1%	0%	4%	2%	1%	0%	3%	2%	2%	0%	1%	2%
Requests for lump sum payments relating to retailer margin shortfall not agreed at the start of the contract period	1%	6%	0%	3%	1%	1%	0%	3%	3%	1%	0%	2%	2%

We now move on from retailers' general treatment of suppliers to the specific issue of food waste. Food waste is an issue that consumers genuinely care about, and therefore could be better utilised as a 'medium through which to engage consumers in otherwise complex and distant sustainability agendas'.[165] Table 4.4, above, indicates that the most pressing issue for suppliers is significant cost incurred as a result of inaccurate forecasting. It follows that, in many cases, the costs referred to relate to wasted food. Nevertheless, because the retailers are not named, interested stakeholders (for example, the ESG investors, the NFU and food waste NGOs like Feedback) cannot identify and highlight the retailers who are causing their suppliers to waste food, nor praise those who are not. This means the food waste issue is unlikely to be picked up by the mainstream press, and therefore the opportunity to use communication regulation to fully leverage the retailers' social licence is lost.

[165] Daniel Welch, Joanne Swaffield and David Evans, 'Who's Responsible for Food Waste? Consumers, Retailers and the Food Waste Discourse Coalition in the United Kingdom' [2018] Journal of Consumer Culture 1, 16.

There is some scepticism in the regulation literature as to whether these communication-type techniques really influence the consumption choices of consumers.[166] However, despite the problems highlighted above, this research does show that regulatees are very concerned that bad publicity resulting from the GCA's information-based regulation will impact negatively on stakeholders, particularly investors. This makes it potentially a very powerful tool. However, this is contingent on the quality of the information and messages communicated to the target audience.[167] As illustrated above, the way the information is presented does paint a picture of an effective regulator.

4.6. Conclusion

This research has found that, in relation to some Code provisions, GCA regulation has had a very positive impact on the use of unfair trading practices. However, in terms of the specific unfair trading practices that cause food waste, the impact of regulation has been less significant. There has been a meaningful reduction in supply-side overproduction that may explain why suppliers perceive that, overall, their levels of food waste have declined. It is likely that the GCA's communication regulation has played some part here by highlighting to retail stakeholders the poor treatment of farmers. However, establishing a causal link is problematic. It is difficult to determine whether this decline is due to regulation or other market factors. In terms of overproduction caused by surplus retail availability, the potential for the provision on compensation for forecasting error to reduce food waste has not been realised. The reasons for this are complex, and there are a number of factors contributing to this regulatory failure. Nevertheless, one of the primary reasons is the failure to address the ambiguity in the Code; what a forecast actually is and what function it must perform are not defined.

The GCA's guidance on forecasting has done little to provide clarity. Definitions matter; if it is not known what a forecast is and what purpose it must serve, how then can it be determined when it is erroneous? The collaborative approach taken by the GCA with regulated retailers seems to have resulted in negotiated non-compliance, with the promise of improved future performance taken as compliance. This despite the fact that, presently, a forecast appears to be compliant even where it offers no certainty to the supplier at the point of committing to production. As such, suppliers are made to bear a disproportionate share of the risks and costs of food waste caused by excess retail availability.

[166] Yeung (n 161) 377.
[167] Yeung (n 161).

Despite the failure of the Code provision on compensation for forecasting error to impact on food waste caused by excess retail availability, there is potential for the GCA to regulate retailers' performance through the use of communication regulation. However, the current approach does not provide sufficient differentiation between retailers to highlight poor performance to interested stakeholders. Instead, the GCA appears to use the information gained through the YouGov supplier surveys to demonstrate its effectiveness as a regulator.

Having set out some of the barriers to reducing the overproduction of food through the GCA's regulation of unfair trading practices, the next part of this thesis moves on to the UK's primary regulatory regime for preventing food waste in the production and consumption of food, the voluntary Courtauld Commitment.

Part II The Voluntary Approach

Chapter 5 – Reducing Overproduction in Retail Supply Chains

5.1. Introduction

In the previous chapter, it was argued that, while retailers accrue the economic benefits of overproduction, the GCA's regulation has had limited impact in preventing suppliers from bearing a disproportionate share of the risks and costs of surplus and the food waste it causes. This chapter turns to voluntary efforts to prevent food waste through the Courtauld Commitment. As will be argued below, when it comes to reducing food waste, retailers again seek to take a disproportionate share of the benefits while the risks and costs fall predominantly on suppliers; this limits the effectiveness and scope of potential solutions.

One of the stated objectives of Courtauld is to work collaboratively with industry and other stakeholders to prevent the food waste that arises as a result of the production of food.[1] The Commitment intends to achieve this by embedding sustainable principles and practices into the design, buying and sourcing of food; optimising resource efficiency throughout entire supply chains to help produce more goods using fewer resources; and finding innovative ways to make the best use of surplus and waste food.[2] While this is waste prevention at source, measures that sit at the top of the waste hierarchy, it is argued that voluntary efforts to date have mainly driven weak prevention with measures that optimise efficiency at the individual business level.[3] As this chapter demonstrates, when it comes to collaborative action to tackle systemic overproduction, the effectiveness of potential solutions is constrained by perceptions of consumer responsibility and the equitable sharing of the costs and benefits of food waste prevention. As will be shown, for retailers, moral and reputational justifications for action are often overridden by economic imperatives (the business case).

The chapter is structured as follows. Section 2 outlines the motivations stated by regulatees to reduce food waste and how they might influence the types of measures taken. Section 3 describes some of the measures taken by businesses to reduce food waste and discusses the impact the Courtauld Commitment has made in food waste reduction at the individual

[1] REFRESH, 'WRAP Launches the Courtauld Commitment 2025!' <https://eu-refresh.org/wrap-launches-courtauld-commitment-2025> accessed 23 August 2018.
[2] ibid.
[3] Marie Mourad, 'Recycling, Recovering and Preventing "Food Waste": Competing Solutions for Food Systems Sustainability in the United States and France' (2016) 126 Journal of Cleaner Production 461.

business level. Section 4 identifies some key barriers to progress in terms of solutions to reduce surplus and waste caused in primary production including sales of wonky fruit and vegetables, relaxation of cosmetic standards and diverting surplus produce into food processing and manufacturing.

5.2. Business Motivations for Tackling Food Waste

Before assessing what progress has been made towards reducing surplus and waste in retail supply chains, it is worth pausing briefly to contemplate what interviewees considered to be the main drivers for voluntary action to reduce food waste. Research by Swaffield and others has found multiple motivational justifications for industry action: the civic duty to do the right thing; economic and reputational benefits; and ethical concerns around the environmental and social implications of the problem'.[4] However, they also warned that for retailers, the 'dependence of ethical motivations on their financial and reputational auxiliaries may actually prevent a long-term solution to the problem'.[5] Although this research delves deeper into retail supply chains, the findings around motivations were broadly similar.

Across the supply chain, all actors interviewed showed concern about the moral and environmental impacts of food waste, and all were in agreement that taking action to reduce food waste was the 'right thing to do'. All interviewees agreed that wasting food 'just makes no sense commercially'. However, for smaller primary producers, the economic imperative was the strongest driver. As one farmer stated, 'the moral bit is what it is, but fundamentally I'm a commercial person and if we are screwed on price, which we are, there is only one way to make it work and that's to sell every bit that you've got'.[6] Corporate supply chain actors appeared to be more nuanced in their motivations; as one large manufacturer stated:

> If you looked at it from a purely business perspective, if you can reduce your food waste by half, then there is money to be had there, let's be honest. However, our investors and the retailers and everyone else, they want to be seen as doing the right thing, as do we.[7]

For one retailer, climate change was the strongest justification for action, 'it's the carbon agenda, which is really the biggest driver in all of this, that's why we're doing it, to reduce emissions'.[8] Another retailer pointed to the moral repugnance of food waste, especially

[4] Joanne Swaffield, David Evans and Daniel Welch, 'Profit, Reputation and "Doing the Right Thing": Convention Theory and the Problem of Food Waste in the UK Retail Sector' (2018) 89 Geoforum 43, 50.
[5] ibid.
[6] Interview with Guy Poskitt, 'Interview 06: PP04' (18 May 2020).
[7] Interview with Norman Watson, 'Interview 09: LFM01 Greencore Group Plc' (11 June 2020).
[8] Interview with Benjamin Thomas, 'Interview 14: RET03 Waitrose' (14 October 2020).

considering 'the number of people in the UK alone that fall within the category of food insecurity'.[9]

Of course, doing the right thing can pay off economically; retailers are reputation sensitive and, therefore, subject to the conditions of the social licence to operate.[10] Taking measures to prevent food waste can build 'reputation capital', essential for businesses that want to be perceived by customers, shareholders, investors and other stakeholders as environmentally friendly.[11] As one food waste activist claimed, Tesco's leadership in the food waste prevention space can, in large part, be explained by their need to rebuild reputational capital following the horse meat scandal of 2013.[12] However, there is a balance to be struck between the reputational benefit accrued from championing the food waste cause and the economic cost of taking preventive measures. As pointed out in Chapter 2, the economic licence (or business case) may act as a brake on social licence demands for increased spending.[13] As will be demonstrated below, this research has found that, for tackling food waste caused by overproduction, the need for a business case to support voluntary action is a cross-cutting theme of this chapter.

5.3. Increasing the Efficiency of Food Production

A key aim of the Courtauld Commitment is to embed sustainable principles and practices into the design, buying and sourcing of food by optimising resource efficiency throughout entire supply chains to help produce more goods using fewer resources and finding innovative ways to make the best use of surplus and waste food.[14] Increasing the efficiency of food production in theory should reduce levels of supply-side overproduction.

This research has found that food producers who are signatories to Courtauld and/or the IGD Roadmap felt that being part of a voluntary Commitment had helped them to reduce their food waste. At the level of individual businesses, Courtauld has had an impact through raised awareness of food waste, information sharing and the obligation to report food waste reduction progress to WRAP. However, as Borck and Coglianese have pointed out, the real difficulty with assessing the impact of any voluntary agreement is discerning what would have

[9] Interview with Anonymous Retail Code Compliance Profession, 'Interview 13: CCO01' (28 September 2020).
[10] Neil Gunningham, Robert A Kagan and Dorothy Thornton, 'Social License and Environmental Protection: Why Businesses Go beyond Compliance' (2004) 29 Law & Social Inquiry 307.
[11] Neil Gunningham, Robert A Kagan and Dorothy Thornton, *Shades of Green: Business, Regulation, and Environment* (Stanford University Press 2003).; Also see Daniel C Esty and Quentin Karpilow, 'Harnessing Investor Interest in Sustainability: The Next Frontier in Environmental Information Regulation' (2019) 36 Yale Journal on Regulation 625.
[12] Interview with Anonymous Food Waste Activist, 'Interview 02: ACT01' (11 February 2020).
[13] Gunningham, Kagan and Thornton (n 10) 329.
[14] REFRESH (n 1).

happened in its absence.[15] Although being part of Courtauld had helped drive the pace of efficiency improvements, interviewees were reluctant to attribute this solely to membership of the Commitment.

However, there is truth in the adage that 'what gets measured gets managed.' The Courtauld signatories interviewed indicated that the obligation to measure and report levels of food waste had increased the emphasis on finding solutions where waste occurred in their operations. As one primary producer explained, 'I think it's that central focus, as a team you know, it's a commitment isn't it and we've got to try and deliver on that'.[16] Both primary producers and manufacturers indicated that a better understanding of food waste–related costs had driven technological advances, and most were able to point to specific measures they had taken. A large primary producer described how they had a team of agronomists and product developers working on ways to improve their crops from a waste perspective: for example, in sweetcorn by 'achieving better cob length or tighter husk wrap on varieties so we get less pests in there'.[17] Another grower explained how better monitoring of food waste had led to investment in new technology:

> It's mainly addressing hotspots … so that has also paved the way for our innovations such as AgriEye. So, we've got a drone that flies the fields and measures establishment and how variable the crop is. So, you can see from that if you need to start harvesting early on one side of the field, and if you need to leave the other side of the field a bit later.[18]

In manufacturing, a producer of pre-packed sandwiches described how hundreds of tonnes of bread had been saved by reconfiguring their cutting knives to reduce the crust size and gain an extra slice of bread out of every loaf.[19] Along similar lines, a meat processor described how they had invested in 3-D computer technology so that steaks could be cut to the exact price point the retailer required without creating waste offcuts.[20] In relation to production errors, measurement coupled with raised awareness of the environmental and social implications of food waste has helped focus management and production staff on the importance of reducing production errors.[21] As one meat processor explained, while some of the long-term solutions need quite complicated interventions, 'some of it is, just don't let stuff go on the floor. Don't

[15] Jonathan C Borck and Cary Coglianese, 'Voluntary Environmental Programs: Assessing Their Effectiveness' (2009) 34 Annual Review of Environment and Resources 305, 311.
[16] Interview with Anonymous Primary Producer, 'Interview 11: PP07' (24 July 2020).
[17] ibid.
[18] Interview with Anonymous Primary Producer, 'Interview 05: PP03' (16 April 2020).
[19] Interview with Watson (n 7).
[20] Interview with Anonymous Food Manufacturer, 'Interview 16: LFM03' (15 October 2020).
[21] Interview with Anonymous Food Manufacturer, 'Interview 12: LFM02' (10 September 2020).; Interview with Food Manufacturer, 'Interview 16: LFM03' (n 20).

mix things up and process it wrong. Don't set the machine at the wrong speed or the wrong setting. It's things like that we were really able to engage the workforce with as well'.[22]

Nevertheless, a key question is whether these efficiency gains would have occurred regardless of Courtauld membership. In fact, interview subjects were reluctant to attribute their measures to reduce food waste solely to the Commitment. One interviewee claimed, 'I think a lot of it would have happened anyway, because of our continuous improvement culture'.[23] Another emphasised the fact that 'we've always looked for ways to reduce our food waste, because it doesn't make financial sense to waste food. It is all about how I can maximise my profit, rather than from being part of the Courtauld Commitment'.[24] However, these comments assume that the 'firms are ever-vigilantly perched on their efficiency frontiers'.[25] This is not always the case, and arguably Courtauld's regulatory focus on information gathering and reporting has achieved some significant benefits by raising awareness.[26] Accurate measurement facilitates quantification and cost–benefit analysis that provide a strong business case for food waste prevention measures. Therefore, at the individual business level, it is argued that participation in Courtauld has reduced food waste and led to increased efficiency, because more food is produced using fewer resources. Yet, whether this leads to an overall reduction in levels of overproduction is less clear. As Mourad has argued, increasing the efficiency in the production of food is a weak form of prevention.[27] Efficiency responds to the question of how we produce food, but not necessarily to the arguably more important question of how much. As illustrated in Chapter 1, if savings are passed down to retailers and consumers, price reductions may actually stimulate increased purchases, and therefore higher levels of overproduction and waste, particularly at household level.[28]

However, as stated above, one of the goals of the Courtauld Commitment is to optimise resource use throughout entire supply chains. There is potential here to reduce levels of overproduction through changing business models and the way we value food. It could be claimed that this is just increased efficiency on a larger scale. Nevertheless, it is argued that if we can better utilise food that has already been produced, as opposed to just producing food more efficiently, there is the potential to change patterns of production. The big question is

[22] Interview with Food Manufacturer, 'Interview 12: LFM02' (n 21).
[23] Interview with Andy Mitchell, 'Interview 07: PP05 World Wide Fruit' (8 June 2020).
[24] Interview with Primary Producer, 'Interview 05: PP03' (n 18).
[25] Karen Palmer, Wallace E Oates and Paul R Portney, 'Tightening Environmental Standards: The Benefit-Cost or the No-Cost Paradigm?' (1995) 9 The Journal of Economic Perspectives 119, 120.
[26] Michael E Porter and Claas van der Linde, 'Toward a New Conception of the Environment-Competitiveness Relationship' (1995) 9 The Journal of Economic Perspectives 97, 100.
[27] Mourad (n 3) 468.
[28] Micheal S Carolan, 'Ecological Modernization Theory: What About Consumption?' (2004) 17 Society & Natural Resources 247, 251.

whether this can be achieved without passing the risk and cost of food waste further down the food chain to consumers.

5.4. Tackling Systemic Overproduction in the Supply Chain

As Chapter 1 made clear, it is important not to conflate the causes of food waste with the location in the supply chain where food surplus and waste arise.[29] Not all causes of food waste are internal, and therefore not all opportunities to reduce overproduction and the surplus and waste it creates exist at the individual company level. Significant quantities of food surplus and waste are created by structural or systemic problems.[30] Therefore, to optimise overall resource efficiency it is vital that actors across the supply chain work collaboratively on food waste prevention solutions.

WRAP claims that Courtauld 2025 is helping to deliver practical solutions to food waste in primary production by bringing together food businesses to deliver collaborative, whole–supply chain solutions.[31] This research has found that, while there have been some successful collaborations implemented, overall progress has been limited. This section begins by assessing the impact on the ground of proposed solutions to some of the most-cited causes of food waste in primary production: surplus and waste caused by cosmetic standards and surplus created by excess retail availability.

The food waste literature highlights a number of ways that surplus production, and the food waste it creates, can be reduced. These include selling the product as it is (wonky or imperfect), the general loosening of cosmetic standards, creating value-added products or diverting it to food processing or manufacturing.[32] All these measures seek to increase crop utilisation and thereby reduce levels of overproduction. However, when waste arises in one part of the supply chain, but the cause originates at another, the potential reputational benefits for retailers or manufacturers to work with suppliers are not always enough to support collaborative solutions. As will be shown below, how the risks and benefits are allocated is key to whether potential solutions are effective.

[29] Catherine Alexander, Nicky Gregson and Zsuzsa Gille, 'Food Waste', *The Handbook of Food Research* (Anne Murcott, Warren Belasco and Peter Jackson (eds), Bloomsbury Academic 2013) 97.
[30] Alexander, Gregson and Gille (n 29).
[31] Bojana Bajzelj, William McManus and Andrew Parry, 'Food Waste in Primary Production in the UK' (WRAP 2019) Technical Report 13.
[32] Carlos Mena and others, 'Causes of Waste across Multi-Tier Supply Networks: Cases in the UK Food Sector' (2014) 152 International Journal of Production Economics 144.; Mourad (n 3).; Carmen Priefer, Juliane Jörissen and Klaus-Rainer Bräutigam, 'Food Waste Prevention in Europe – A Cause-Driven Approach to Identify the Most Relevant Leverage Points for Action' (2016) 109 Resources, Conservation and Recycling 155, 161.

5.4.1. Sales of 'Wonky' Fruit and Vegetables

Sales of 'wonky' fruit and vegetables have the potential to change social and cultural expectations about what good and healthy fruit and vegetables are, as well as drive better utilisation of crops, thus creating a win–win scenario for food waste prevention.[33] However, interviews with farmers indicate that the effectiveness of this solution has been undermined by inequitable sharing of the costs and benefits.

Selling wonky produce is, of course, a very visible way for retailers to demonstrate their engagement with the problem of food waste.[34] Nevertheless, as the popularity of these initiatives increased, their effectiveness and scalability was questioned by some commentators.[35] As Mourad pointed out, concerns were raised by farmers about overall decreases in their revenue should retailers continue to maintain their margins on these products.[36]

Discussions with farmers reveal these concerns were well-founded; sales of wonky produce can, in fact, cost producers more money than simply discarding the product. All of the farmers interviewed were of the opinion that selling imperfect produce at highly discounted prices simply did not work for them. The problem with these initiatives was not that consumers objected to buying wonky produce; on the contrary, price-conscious shoppers are quick to snap up perfectly edible produce at greatly reduced prices.[37] The problem is satisfying demand. As one farmer explained, 'Once the retailer sets up a wonky produce line and it goes live in store, orders are generated automatically by the retailer's system. Demand often outstrips the supply of grade-outs, because, you know, we don't set out to grow wonky produce'.[38] As discussed in the previous chapter, because suppliers are under pressure to meet contractual service levels, when the wonky produce runs out, they end up having to substitute it with premium product at the discounted price.[39] This clearly impacts on farmers' profitability and undermines any incentive to utilise wonky produce.

None of the farmers interviewed now participate in 'wonky veg' initiatives. However, a survey of local retailers found that most are still offering wonky produce, albeit the shelf space allocated to these products is very limited.[40] This is unsurprising considering the reputational benefit in doing so. Nevertheless, from a consumer perspective, selling imperfect products at

[33] Mourad (n 3) 469.
[34] Interview with Food Waste Activist (n 12).
[35] Jessica Aschemann-Witzel and others, 'Key Characteristics and Success Factors of Supply Chain Initiatives Tackling Consumer-Related Food Waste – A Multiple Case Study' (2017) 155 Journal of Cleaner Production 33, 42.; Mourad (n 3) 469.
[36] Mourad (n 3) 469.
[37] Interview with Anonymous Primary Producer, 'Interview 01: PP01' (28 January 2020).
[38] ibid.; Interview with Poskitt (n 6).
[39] Interview with Primary Producer, 'Interview 01: PP01' (n 37).
[40] Survey of supermarkets April 2021.

greatly reduced prices is counterproductive in terms of the way we value food. This practice reinforces the perception that wonky produce is 'suboptimal', and therefore works against the objective of changing social and cultural expectations about what good and healthy fruit and vegetables are.[41] Interestingly, one interview subject stated that there was anecdotal evidence that one retailer had experienced such high demand for wonky produce that, for a time, they had raised the price over and above that of their premium products.[42] This indicates that such significant discounting of wonky produce is not necessarily required. It is important to be clear that it is not argued that selling wonky produce cannot work for retailers and primary producers but rather that it does not work when the benefits and costs are not distributed fairly.

It might be argued that, if retailers are serious about reducing food waste caused by cosmetic standards, the most effective way to achieve this is to loosen product specifications more generally. However, as Gille has pointed out, the environmental benefit of relaxing cosmetic standards is dependant to a great extent on consumer acceptance making it economically viable for the retail sector.[43]

5.4.2. Progress on General Relaxation of Cosmetic Standards

In relation to cosmetic standards, WRAP, with the support of the Courtauld 2025 Fresh Produce Working Group FPWG, has published best practice guidance on setting and maintaining quality specifications and is supporting business to implement this within UK supply chains.[44] Due to the lack of food waste and surplus measurement in primary production, it is difficult to ascertain with any real certainty what impact the Courtauld Commitment has made in this area, but WRAP's view was that:

> There is progress that has been made. There has been a raised awareness and there's more tools for people and there's more examples of where retailers are doing the right thing. But what we don't have yet, I think we will have in the next year or two, is the sort of robust assessment of how the different retailers are employing those quality specifications.[45]

The primary producers interviewed in this research seem to confirm earlier findings that cosmetic standards are used by retailers as a means to regulate the supply and demand of

[41] Aschemann-Witzel and others (n 35) 42.
[42] Interview with Mitchell (n 23).
[43] Zsuzsa Gille, 'From Risk to Waste: Global Food Waste Regimes' (2012) 60 The Sociological Review 27, 41.
[44] William McManus, 'Delivering Customer Value in Fresh Fruit and Veg: A Guide to Setting & Maintaining Quality Specifications' (Waste and Resources Action Programme 2018) Project code: SCC007-202 <https://wrap.org.uk/sites/default/files/2020-08/Delivering-customer-value-in-fresh-fruit-and-veg.pdf> accessed 20 May 2020.; Bajzelj, McManus and Parry (n 31) 14.
[45] Interview with Andrew Parry, 'Interview 28-29: WRAP' (21 January 2021).

fresh produce.[46] Interviews with growers indicated that there has been some progress in terms of relaxing cosmetic standards, but this was attributed to increased competition from the discount supermarkets rather than retailers trying to eliminate food waste in their supply chains. For some retailers, strict cosmetic standards play a key role in maintaining consumer perception of overall store quality.

5.4.2.3. 5.4.2.1. Temporary Specifications

It is important to point out the difference between relaxation of cosmetic specifications that exist to regulate supply and demand and genuine long-term reductions that seek to better utilise farmers' crops. WRAP's guidance urges retailers to be 'willing to consider temporary specifications to save food from being wasted'.[47] Retailers are quick to publicise the fact that they are working with suppliers to reduce specifications that cause food waste. In 2017, The Guardian ran a story on how Tesco had saved British apple growers from dumping hundreds of tonnes of blemished fruit, caused by unseasonal frost, by reducing their specifications.[48] Similarly, one large grower described how production in Spain had been impacted by severe weather in 2017, causing the product to be much smaller than usual.[49] Tesco reacted quickly, allowing the product to be marketed as 'imperfect' at a greatly reduced price, and in doing so managed to save the crop from going to waste.[50] These examples obviously impact positively on food waste, but retailers are not necessarily doing this for ethical reasons. A failure to relax specifications in certain circumstances would result in retailers having very little product available to sell. It is important to understand that these relaxations are temporary; growers often ask for 'temporary specifications' when adverse weather means they are struggling to supply 'in-specification' produce. Yet, there is no guarantee that a temporary specification will be forthcoming, particularly if supply problems are limited to a small geographical region or number of growers. Nor is it the case that all retailers will react sympathetically, as one supplier explained,

> Sainsbury are pretty reasonable when it comes to specification changes on the whole. Asda is completely inflexible, they won't accept anything, very little. But you know, sometimes the market, the supply drives those specification changes, because you

[46] Jessica Sinclair Taylor and others, 'When There's No Waste, There's a Way (to Net Zero): A Call for Policy for Food Waste Prevention' (Feedback 2020).; Tristram Stuart, *Waste: Uncovering the Global Food Scandal* (Penguin Books 2009).; Gille (n 43).
[47] McManus (n 44) 1.
[48] David Connect, 'Relief for British Apple growers as Tesco relaxes its "blemish-free" rules' The Guardian, September 2017. https://www.theguardian.com/business/2017/sep/23/relief-british-apple-growers-tesco-relaxes-blemish-free-rules-frost-ring
[49] Interview with Primary Producer, 'Interview 05: PP03' (n 18).
[50] ibid.

have to say well that's what's available, take it or leave it pal. When you get into that situation it's a bit easier.[51]

In March 2020, when availability was tight due to Covid-19 panic buying, growers indicated that cosmetic standards were relaxed significantly.[52] One grower even stated that supermarkets had been buying potatoes meant for chip production despite the fact that these were treated with higher levels of sprout suppressant than were normally allowed for retail supply.[53] However, there is very little flexibility when demand is low; as one grower stated, 'there needs to be quite an exceptional case to get the temporary spec in'.[54] Therefore, while WRAP's guidance urges retailers to be 'willing to consider' temporary specifications, their use is usually conditional on supply shortages or increased demand by consumers.[55] In addition, as one grower pointed out, a relaxation of cosmetic standards is also usually accompanied by a temporary reduction in price for the grower.[56] Hence, the findings of this research confirm earlier findings that cosmetic standards continue to be used as a method to regulate supply and demand.[57] As such, temporary specifications do not provide a comprehensive solution to the problem of perfectly edible food being wasted.

5.4.2.4. 5.4.2.2. The Hierarchy of Cosmetic Standards

Discussions with primary producers indicate that there has been some relaxation of cosmetic standards for some product lines. However, interviewees implied that the motivation for this was not a civic duty to do the right thing, but rather there was a sound business case underpinning the move: to compete with the discount supermarkets.

Previous research has found that the rigor of supermarket cosmetic standards is linked to the demographic that the particular retailer is targeting.[58] Consequently, there is a hierarchy of supermarket quality standards; at the top end, the premium-price supermarkets maintain very strict standards. As one supplier explained, 'M&S, are very clear that they want their [produce] to look perfect, the defects that are on their specifications are there because inevitably something will slip through the net, otherwise they want it perfect'.[59] Higher specifications mean higher prices are paid to farmers. For the upmarket retailers, this cost can be passed

[51] Interview with Primary Producer, 'Interview 11: PP07' (n 16).
[52] Interview with Primary Producer, 'Interview 05: PP03' (n 18).; Interview with Mitchell (n 23).; Interview with Anonymous Primary Producer, 'Interview 10: PP06' (21 July 2020).
[53] Interview with Primary Producer, 'Interview 10: PP06' (n 52).
[54] Interview with Primary Producer, 'Interview 05: PP03' (n 18).
[55] Martin Bowman and Christina O'Sulivan, 'Famers Talk Food Waste: Supermarkets' Role in Crop Waste on UK Farms' (Feedback 2018).
[56] Interview with Anonymous Primary Producer, 'Interview 33: PP09' (2 February 2021).
[57] Stuart (n 46).; Gille (n 43).
[58] Stuart (n 46) 107–108.; Also see Carlos Mena and others, 'Causes of Waste across Multi-Tier Supply Networks: Cases in the UK Food Sector' (2014) 152 International Journal of Production Economics 144.;Jessica Aschemann-Witzel and others, 'Consumer-Related Food Waste: Causes and Potential for Action' (2015) 7 Sustainability 6457.
[59] Interview with Primary Producer, 'Interview 33: PP09' (n 56).

on to customers willing to pay a premium for the best quality. At the bottom of the hierarchy are the discount supermarkets. Because they demand lower cosmetic standards they get better prices from farmers, and accordingly pass the savings on to their customers. As Lidl confirmed, 'Typically, what we sell comes from the same supplier as a lot of our competitors, the upmarket competitors, but with lower specifications'.[60] In the middle are the big four retailers, Tesco, Sainsbury, Asda and Morrisons. While the big four have varying degrees of cosmetic standards, concern around the discount supermarkets' increasing market share has seen the introduction or expansion of budget ranges with lower specifications to compete with the discounters on price.[61] As one grower stated,

> We have worked quite successfully with Asda; we altered the specification to put more class II material into the bags. Then we analysed, did we get any decrease in sales, or any increase in complaints, and the answer was no. Of course, if you dilute it in, you don't notice it's there.[62]

This is a positive development in terms of reducing the impact of cosmetic standards. Increased crop utilisation should reduce levels of supply-side overproduction, and this is another factor explaining why overproduction percentages have decreased on UK farms (as indicated in Chapter 4). However, for farmers this creates a trade-off; better crop utilisation means lower prices. For larger suppliers who service retailers at all levels of the hierarchy, produce can be matched against the retailer's specifications and waste minimised. The problem is for smaller farmers supplying a limited number of retailers directly; this is another factor contributing to downward pressure on prices and profitability.

5.4.2.5. Responsibility for Cosmetic Standards

Despite some progress in this area, the interview data confirmed that, for farmers, cosmetic grade-outs were still one of the most significant causes of waste in their operations. Accordingly, retailers have been criticised for upholding rigorous cosmetic standards that cause their suppliers high levels of waste.[63] Nevertheless, this research has found that both retailers and growers tend to agree that consumers, not retailers, are to blame for a need to maintain high cosmetic standards. Somewhat paradoxically, despite the waste created by these standards, growers appeared to sympathise with retailers on the lack of progress in this area. As Courtauld's FPWG Chair pointed out, expanding cosmetic specifications is a great idea, but when retailers have trialled it in the past, 'if you have product that's wonky or not quite perfect, and then you have a perfect one right next to it, their eyes get diverted to that

[60] Interview with Lidl, 'Interview 27: RET05 Lidl' (21 January 2021).
[61] Interview with Primary Producer, 'Interview 33: PP09' (n 56).
[62] Interview with Poskitt (n 6).
[63] Stuart (n 46).; Sinclair Taylor and others (n 46).

and they'll buy that'.[64] In terms of consumer acceptance, growers were equally sceptical, as the comments below illustrate:

> Consumers shop with their eyes, not with their brains. Everything is about the visual quality, even if it's something that is going to be peeled or cut up or cooked, they still use their eyes, so they will pick their way through products.[65]

> [Consumers] like to think they're buying substandard product and they like to think they're buying to save the world, but the reality is they will go and buy the best first.[66]

These findings align with that of Mena and others, who found that, while quality standards lead to waste, product quality is more important to businesses than the waste it creates.[67] It appears that growers understand or have been convinced by their retail customers of the importance of quality fresh fruit and vegetables. As one supplier stated,

> Produce is usually the first part of the store you enter, so it's a big driver of customers' perception of quality. If they can get that quality right, the overall perception is improved, because if customers think they've got great fruit and veg, everything is great.[68]

It is clear from the statement above that, for some retailers, the cosmetic quality of fresh fruit and vegetables is a competitive issue, and this is clearly problematic in terms of reducing food waste. As Mena and others have pointed out, by focusing on their individual performance retailers may be gaining a competitive advantage, but in doing so they are 'limiting the options for the entire supply chain'.[69]

A more effective approach would be for retailers to combine more flexible standards with greater consumer education.[70] If retailers worked collaboratively, both together (horizontally) and with their suppliers (vertically), more might be achieved. This is exactly what the Courtauld Commitment claims to be doing. However, some interviewees indicated that there is a general perception that not much can be achieved until consumer attitudes are changed, which was best left to WRAP's Love Food Hate Waste campaign.[71] The problem with that notion is that, rather than WRAP and industry working collaboratively, it pits WRAP's consumer food waste campaign in direct conflict with powerful retail marketing mechanisms designed to convince

[64] Interview with Mitchell (n 23).
[65] Interview with Primary Producer, 'Interview 11: PP07' (n 16).
[66] Interview with Poskitt (n 6).
[67] Mena and others (n 32) 655.
[68] Interview with Primary Producer, 'Interview 01: PP01' (n 37).
[69] Mena and others (n 58) 155.
[70] ibid.
[71] Interview with Mitchell (n 23).

consumers of the importance of quality.[72] This brings us back to questions of responsibility, and as Stuart pointed out some years ago, 'the chicken-and-egg conundrum of whether these "superficial attitudes" originate with consumers or with the retailers'.[73] Regardless of whether consumer expectations around quality originate from the retailers or not, blaming consumers for a failure to reduce cosmetic standards plays into the wider narrative that it is consumers, not retailers, who are responsible for food waste.[74]

5.4.3. Diverting Surplus: Value-Added Products and Food Manufacturing

Cosmetic grade-outs are one cause of edible surplus in primary production. Primary producers face uncertainty of both supply and demand, which creates significant challenges for supply chain managers.[75] Levels of supply-side surplus are often compounded by weather conditions that mean crop yields exceed expectations. In addition, fluctuations in consumer demand can further inflate levels of available product. This means at certain times of the year there may be a great deal of produce grown to be supplied fresh to supermarkets that ends up being surplus. To increase overall resource use and to reduce food waste, it is, therefore, important to develop new strategies or business models to utilise surplus and prevent it from becoming food waste.[76]

5.4.3.3. 5.4.3.1. Value-Added Products

Creating valued-added products is one proposed solution for preventing surplus produce becoming waste. Nevertheless, discussions with one primary producer revealed that often the business case for utilising surplus is difficult to justify.[77] In terms of managing surplus, as WRAP rightly point out:

> There is a lot retailers can do and they have a lot of influence. But some of the suppliers are huge businesses in themselves and I think there is an element of responsibility, it's easy to blame the retailers for everything … The thing is, there are things suppliers can do as well'.[78]

[72] Rudolf Messner, Carol Richards and Hope Johnson, 'The "Prevention Paradox": Food Waste Prevention and the Quandary of Systemic Surplus Production' (2020) 37 Agriculture and Human Values 805, 810.
[73] Stuart (n 46) 108.
[74] David Evans, 'Blaming the Consumer – Once Again: The Social and Material Contexts of Everyday Food Waste Practices in Some English Households' (2011) 21 Critical Public Health 429.
[75] Mena and others (n 32) 151.
[76] Norbert Raak and others, 'Processing- and Product-Related Causes for Food Waste and Implications for the Food Supply Chain' (2017) 61 Waste Management 461, 466.
[77] Interview with Primary Producer, 'Interview 11: PP07' (n 16).
[78] Interview with Parry (n 45).

Innovation to create value-added products are one way that primary producers can utilise cosmetically challenged produce and surplus. As WRAP explained, there are opportunities here for suppliers to invest in equipment and product innovation to better utilise crops or parts of crops that traditionally end up being wasted. As one Courtauld Working Group member stated:

> There's been a lot of promotion of wonky veg and that's part of it in terms of specification, but actually just simple stuff, looking at how you take the product that's out of specification and use it for process products, where actually its size or shape's immaterial. So, I think, and it seems a really obvious proposition, but one that really hasn't been explored fully enough, in my opinion.[79]

WRAP gave an example of a pepper grower who had utilised what was previously wasted and turned it into a marketable product:

> There was a certain level of waste, and then what they've done is invested in some equipment and some product development so they can now dice their peppers and sell them as dipping peppers.[80]

Utilising surplus in this way seems promising on the face of it. However, as one grower pointed out, 'making investments based on the waste cart is a risky business'.[81] As the grower explained, 'the problem in that sector is that the margins are low, while the investment required is high'.[82] The grower described how they had been involved in the Courgetti boom a couple of years ago, but demand had now fallen away. The supplier explained that 'Consumers do like value-added products and will buy into them, but after a while they will move on to something else'.[83] Often these types of products have a limited lifespan in comparison to selling the product in traditional form, and this can make investment difficult to justify. In addition, the same problems of inconsistent supply exist as with selling wonky produce, as described above, and there is the risk that producing value-added products might at times detract from the main business objective of selling the product fresh.[84]

[79] Interview with Anonymous Food Manufacturer, 'Interview 24: LFM07' (4 December 2020).
[80] Interview with Parry (n 45).
[81] Interview with Primary Producer, 'Interview 11: PP07' (n 16).
[82] ibid.
[83] ibid.
[84] ibid.

The fundamental problem with selling wonky produce and value-added type products is that 'the consumer can only eat so much, five a day aside'.[85] As one supplier explained, 'in economic terms, if there is a surplus of something and it is utilised to avoid it becoming waste, sales are simply stolen from somewhere else. There will not always be an overall category value increase and the supermarkets don't really like that.[86] In other words, the availability of products in the category has increased, but this does not mean demand in the category will necessarily do the same. Thus, there is an increase in availability of the same product in a different format. If successful marketing strategies are deployed that drive an overall category value increase, it is likely that the problem of surplus has simply been passed on to consumers, along with the risk of that surplus becoming waste. This is the problem with overproduction in general; unless solutions have a net negative impact on overall levels of production, they are often costly and ineffective in terms of reducing food waste as a whole. Surplus is simply moved from one product category to another or from the supply chain to the consumer.

5.4.3.2. Utilisation of Surplus in Processing and Manufacturing

Perhaps the better solution is to divert primary production surplus to food processing or manufacturing. There is potential here to utilise surplus fresh produce and other primary products where there is less conflict between product categories: for example, using surplus meat or vegetables in the production of ready meals. In theory, this appears to be exactly the type of collaborative project that lends itself to facilitation through the Courtauld Commitment. Nevertheless, this research has found that achieving this type of utilisation at scale requires far greater collaboration, both vertically within retail supply chains and horizontally across different retailers, than currently appears to exist. Four years into Courtauld 2025, the indication from supply chain actors was that collaborative solutions were still rather limited.

All of the retailers interviewed stated that they actively worked with their suppliers to help divert surplus product. As one retailer suggested, 'there are alternative routes, we will work with the suppliers to say what alternative routes they can use'.[87] While this is no doubt true, when pressed for actual instances of where this type of diversion had been facilitated by the retailers interviewed, very few examples were forthcoming. As a grower pointed out,

> You've got somebody who's buying for processed product in Evesham, for example, they're putting into the frozen medley, and then you've got us over here in

[85] ibid.
[86] ibid.
[87] Interview with Retail Code Compliance Professional (n 9).

> Cambridgeshire, who's growing the whole product fresh, but the two aren't always joined together.[88]

While diverting primary products into food processing and manufacturing might be an obvious proposition, and real opportunities to save surplus becoming waste exist, the problem is that there are some quite significant hurdles to overcome, both practically and in terms of agreeing how the risks and benefits of increasing supply chain efficiency in this way are distributed.

In terms of practicability, processors and manufacturers also have retail service-level targets to meet and therefore require certainty of supply.[89] As such, food processors and manufacturers have their own orders placed with primary producers.[90] As the wonky example above illustrates, primary producers growing to supply the fresh produce market do not produce consistent volumes of grade-outs.[91] There is also a risk that unseasonable weather might just as well cause shortages rather than surplus.[92] If favourable weather conditions do mean the market for a certain fruit or vegetable becomes flooded, those producers supplying processors are also likely to have surplus, and therefore there is little incentive to buy from growers supplying the fresh produce market.[93] The extent to which processors or manufacturers are then willing or even able to accommodate seasonal surpluses over and above what they already have programmed is questionable.[94]

That is not to say that there is no scope to allow for surplus to be accommodated within programmed orders. Nevertheless, this requires a high level of vertical and horizontal collaboration between retailers, processors/manufacturers and primary producers. There are some difficult conversations to be had in relation to how the risks of supply are managed if surpluses do not eventuate. In terms of encouraging collaboration, arguably the most important question is how the benefits of waste reduction and increased supply chain efficiency are to be distributed. To give an example, for farmers, where surplus crop exists in the field there needs to be enough incentive to harvest, pack and transport the surplus to the processor rather than plough it back into the ground.[95]

However, equitable sharing of the benefits of increased efficiency appears to be a significant barrier to collaborative solutions. Interviews with retail suppliers imply that there is a perception

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[88] Interview with Primary Producer, 'Interview 01: PP01' (n 37).
[89] Imperfect Foods, 'Do All Ugly Tomatoes Really End up in Salsa?' (*Medium*, 30 July 2019) <https://imperfect-foods.medium.com/do-all-ugly-tomatoes-really-end-up-in-salsa-c00bd8202ef3> accessed 20 May 2021.
[90] ibid.
[91] Interview with Primary Producer, 'Interview 01: PP01' (n 37).; Interview with Poskitt (n 6).
[92] Interview with Primary Producer, 'Interview 10: PP06' (n 52).
[93] Imperfect Foods (n 89).
[94] ibid.
[95] Mark Bond and others, 'Food Waste within Global Food Systems. A Global Food Security Report.' (2013) 10 <www.foodsecurity.ac.uk> accessed 3 March 2018.

that most, if not all, of the benefits of increased efficiency will be seized by retailers. Therefore, there is little incentive for manufacturers and primary producers to engage. This is an important consideration that will be examined in more detail in Chapter 8. These factors might help to explain why in theory diversion of surplus into food processing and manufacturing sounds promising, but in practice there is limited evidence of it actually happening at scale. To this end, WRAP launched a food surplus network in 2019. If farmers have surplus they cannot sell through the normal channels, the food surplus network aims to help them find customers that might be able to buy it, or worst case at least redistribute it.[96]

5.4.3.3. Whole Crop Purchasing

In terms of sharing risks and benefits, one potential solution in primary production is whole crop purchasing (WCP). With the WCP model the retailer agrees to buy all of the farmer's crop in advance at an agreed price. Where there is surplus or cosmetically challenged produce the retailer takes responsibility for connecting the necessary parts of the supply chain to utilise it and prevent it from becoming waste.[97] In this case, the risks and costs of surplus and food waste caused by demand-side fluctuations fall on the retailer, and while these risks may be reflected in the price the farmer receives for the crop, WCP provides the farmer with certainty that all of the crop will be purchased. This alters the power dynamic because the retailer is no longer able to deflect all the risks and costs of production on to the farmer; instead, they are shared. WCP represents a significant change in the business model that incentivises better use of food that has already been produced and therefore arguably represents a stronger form of food waste prevention.

The theory behind WCP is good; however, in practice, none of the growers interviewed in this research had any such agreements in place with their retail customers. As will be argued below, increasing the scalability of WCP means overcoming some quite difficult barriers, particularly in relation to more perishable products, and would require a higher level of industry collaboration than currently appears to be the case.

Tesco indicated that WCP was a strategy that they had developed with a number of growers and crops. As Tesco explained, 'Potato is probably your best example, where the potatoes that are too big, too small, don't quite fit, but obviously, still perfectly edible, [they] will be purchased, and then they'll go as an input to the Tesco finest mashed potato or a ready

[96] Interview with WRAP.
[97] Government Office for Science, 'Food Waste: A Response to the Policy Challenge' Crown copyright 2017 4.

meal'.[98] Morrisons have also used WCP to increase the utilisation of their suppliers' potato crops by 20 per cent and 'control its supply chain more effectively'.[99]

However, the extent to which WCP actually takes place is questionable; in this research even growers who supplied the vast majority of their produce to one retailer did not have any WCP arrangements in place.[100] A problem with WCP is that it is logistically challenging.[101] As Tesco admitted, 'It seems blindingly obvious that you would do it, but it clearly takes quite a lot of joined up thinking to make that happen'.[102] To be effective at scale, WCP requires retailers to be able to manage multiple suppliers of multiple products, both in primary production and food processing/manufacturing. This requires a high level of coordination and vertical integration.[103]

Related to the logistical challenge, another potential barrier to the WCP model is the perishability of many types of fresh produce. Crops like potatoes (and berry fruits) that are harvested over a relatively short period and then cool-stored for long durations are well suited to WCP.[104] Short harvesting periods coupled with long storage times mean the crop can be quantified and allocated to different uses. However, more perishable products, for example lettuce or courgettes, that are harvested over longer periods and have relatively short storage times would be much more difficult to manage.[105] As WRAP explained, there is a risk that WCP could actually overcomplicate the supply chain.[106] WCP may overcome problems of risk-benefit allocation between primary producers and retailers. However, it would also shift a great deal of responsibility for the logistical challenges of reducing waste onto retailers. It is questionable to what extent many retailers are willing or even capable of assuming those duties and responsibilities.

It is clear that making WCP work at scale would require a great deal of industry collaboration. Yet, at present, the interview data suggests that the required level of collaboration is not taking place through the Courtauld Commitment. Nevertheless, a recent report by the WWF and Tesco identified WCP as a key strategy for combating food waste caused by structural inequalities in retail supply chains.[107] Therefore, while it is unclear to what extent WCP is

[98] Interview with David Ward, 'Interview 15: Tesco' (14 October 2020).
[99] Government Office for Science (n 97) 4.
[100] Interview with Primary Producer, 'Interview 01: PP01' (n 37).; Interview with Anonymous Primary Producer, 'Interview 31: PP08' (29 January 2021).
[101] Rakesh Allu and Elena Belavina, 'Contractual Terms for Reducing Food Waste: Possibilities and Potentials Within Fresh Grocery Supply Chains' (Consumer Goods Forum 2020) 10.
[102] Interview with Ward (n 98).
[103] Allu and Belavina (n 101) 10.
[104] Interview with Primary Producer, 'Interview 10: PP06' (n 52).
[105] Interview with Primary Producer, 'Interview 01: PP01' (n 37).
[106] Interview with Ward (n 98).
[107] WWF-UK, 'Driven to Waste: The Global Impact of Food Loss and Waste on Farms' (World Wildlife Fund UK 2021) 18.

currently being successfully used by retailers, a better understanding of the barriers to WCP and how they might be overcome is a topic worthy of further research.

5.5. Conclusion

This chapter has assessed voluntary efforts to reduce food waste in retail supply chains through the voluntary Courtauld Commitment. It has been argued that Courtauld's measurement and reporting obligations are raising awareness and help provide focus for food producers to reduce their food waste and increase efficiency at the individual business level. However, this is a weak form of food waste prevention, and there is no guarantee that increased efficiency will result in decreased levels of production.

In terms of tackling systemic overproduction in the supply chain, opportunities for collaborative solutions do exist, as the Tesco potato example illustrates. Nevertheless, this research has found that as yet collaboration between retailers and their supply chains is not at the level required to effectively implement solutions at scale. Discussions with suppliers indicate that key reasons for a lack of collaboration are perceptions of consumer responsibility and inequitable sharing of the costs and benefits of food waste prevention. In terms of cost–benefit it has been argued that, for retailers, reputational justifications for measures to reduce supply chain food waste need to be reinforced by a sufficiently strong business case to support them. Or, put another way, measures based on the social licence to operate are often constrained by the economic licence. The next chapter turns to voluntary efforts to redistribute surplus food, where it will be shown that the social licence to operate plays a more pronounced role in driving progress.

Chapter 6 – Surplus Food Redistribution

6.1. Introduction

In Chapter 5, it was argued that measures to prevent surplus and food waste caused by overproduction in the supply chain are constrained by inequitable sharing of the benefits and costs. This has inhibited the level of collaboration required to implement effective solutions at scale. For many retailers, the social licence to operate alone did not provide sufficient justification for measures to reduce food waste further up the supply chain without a sufficiently strong business case to support them.

This chapter assesses efforts to redistribute surplus food to people who cannot afford to buy it through the normal retail channels. Redistribution provides another way to reduce supply chain food waste. In the context of redistribution, it is argued that the social licence provides a much stronger driver for action; however, as will be seen, economic concerns are not completely absent. In a way, some of the discussion below may seem to be a distraction from the main purpose of this thesis. Yet, paradoxically, that supports the most important argument made in the latter part of this chapter, that redistributing surplus itself detracts from tackling overproduction as a root cause of food waste and the role of the state in addressing poverty. In fact, redistributing surplus food may actually support higher levels of production. For that reason, as Mourad has argued, surplus food redistribution is classified as a weak form of prevention.[1] Redistribution sits below prevention at source in the waste hierarchy. Nevertheless, due to the uncertain nature of both supply and consumer demand, it is unlikely that the need for surplus food redistribution will ever be eliminated. Therefore, it is important that any surplus that does occur is redistributed to people in need rather than go to waste.

The chapter proceeds as follows: Section 2 sets out the main differences in the models of the UK's two largest food redistribution organisations and how these influence the range of food that they are able to offer their end users. Section 3 examines some of the most significant factors that this research has found to have contributed to increases in levels of food redistribution: the need to meet voluntary commitment targets; the social licence to operate and its relationship with food insecurity in the UK; and support from government in the form of subsidies. Section 4 highlights the problem of competition within the redistribution sector and how this raises questions regarding the effectiveness of the charitable redistribution model.

[1] Marie Mourad, 'Recycling, Recovering and Preventing "Food Waste": Competing Solutions for Food Systems Sustainability in the United States and France' (2016) 126 Journal of Cleaner Production 461, 462.

Section 5 discusses the problematic relationship between overproduction, redistribution and the role of the State in providing food for people in poverty.

6.2. UK Redistribution Models

In the UK, there is a range of different redistribution models. It is important to note that the type of model employed has a bearing on the organisation's ability to provide a balance of food to the end users that they support. At one end of the spectrum is for-profit redistribution; the major player in this sector is Company Shop. Company Shop works mainly with food manufacturers, buying surplus product that is then sold at discounted prices to its members through a network of retail outlets.[2] The sales revenue earned through the stores allows the organisation to purchase additional non-surplus items and therefore provide a full range of products to its members, including meat, fruit and vegetables and all the usual staples available in the mainstream supermarkets.[3] The Company Shop group also includes the social enterprise Community Store. Community Store is a network of convenience stores stocked primarily through donations from food producers. However, importantly, donations made to Community Store can be transferred to Company Shop and sold at a profit. This revenue is then credited back to Community Store, allowing it to purchase inventory from Company Shop. This means Community Store is also able to stock a full range of food and well-known household products, which are then sold to their members at deeply discounted prices.[4] For people on the cusp of poverty, Community Store provides vital access to the full range of healthy and nutritious food. Nevertheless, the Company Shop for-profit redistribution model and Community Store still rely on their members paying for food; although prices are heavily discounted, it is not charity.[5]

Unfortunately, in the UK, there is also a need to feed people in abject poverty, those that have little or no money to purchase food. These people depend on charitable and social redistribution, such as community kitchens and food banks, for nutritious food; these entities, in turn, rely heavily on not-for-profit redistribution organisations. Therefore, at the other end of the spectrum are organisations like FareShare and Neighbourly that provide what Midgley describes as a brokerage function, connecting surplus food from retailers and food producers with the food charities that service end users.[6] FareShare is the largest charitable redistribution organisation, providing two million meals a week through a network of 11,000

[2] Interview with Jane Marren, 'Interview 22: RED03 Company Shop' (2 December 2020).
[3] ibid.
[4] ibid.
[5] ibid.
[6] Jane L Midgley, 'Surplus Food Redistribution', *Routledge Handbook of Food Waste* (Reynolds et al, Routledge 2020).

charities and community groups.[7] FareShare works on a subscription model; retailers, and in some instances food manufacturers, are charged a fee for surplus to be collected and distributed to the charities who supply the end user. The food charities are also charged a subscription fee.[8] The fees help cover the operational costs of getting the food to those in need. Historically, the problem with this type of model is that there is no guarantee that the surplus collected will provide a balance of nutritious food.[9] As will be shown below, this constraint is important in terms of how FareShare has increased its volume of surplus redistribution. The redistribution sector also contains a number of other, smaller organisations and some hybrid forms of the above models: for example, The-Bread-and-Butter-Thing is a charitable redistributor that takes donations from food producers but will also pay for food if necessary, and then charges their service users for the food to be delivered.[10]

6.3. Factors Promoting Increased Redistribution

The purpose of this section is to set out the factors that have led to an increase in surplus redistribution. The section begins by quantifying the gains made in the sector since the launch of Courtauld 2025 before explaining how the Courtauld targets, the social licence to operate, and government funding have all helped to drive increased levels of redistribution in the UK.

The amount of surplus food redistributed to people in need has increased rapidly since the launch of Courtauld 2025. Both charitable and for-profit redistribution organisations are reaching increasing amounts of surplus across the supply chain.[11] According to WRAP, in 2020, over 92,000 tonnes of food were redistributed, up from 28,500 tonnes in 2015, before the launch of Courtauld 2025.[12] This is the equivalent of 220 million meals and is valued at £280 million.[13] The most significant increase has been in 2020, where redistribution increased by 45 per cent from just over 63,000 tonnes to over 92,000 tonnes.[14] This growth is in some part due to increased surplus availability caused by Covid-19 disruption, with restaurants, pubs and other food service businesses having to clear stock and cancel orders due to lockdowns and decreased demand. However, the majority of the increase was not related to Covid-19,

[7] FareShare, 'Increasing Surplus Food Redistribution through Overcoming Financial Barriers Grant: Objectives & Outcomes' (FareShare 2021) 3 <https://fareshare.org.uk/wp-content/uploads/2021/06/DEFRA-Grant-Objectives-Outcomes.pdf> accessed 9 September 2021.
[8] Interview with Company Shop.
[9] Jane L Midgley, 'The Logics of Surplus Food Redistribution' (2014) 57 Journal of Environmental Planning and Management 1872.; Catherine Alexander and Chris Smaje, 'Surplus Retail Food Redistribution: An Analysis of a Third Sector Model' (2008) 52 Resources, Conservation and Recycling 1290.
[10] Interview with Mark Game, 'Interview 08: RED01 The Bread-and-Butter Thing' (10 June 2020).
[11] Andrew Parry and Billy Harris, 'Surplus Food Redistribution in the UK 2015 - 2020. Final Report.' (Waste and Resources Action Programme 2021) VFU004-001 <https://wrap.org.uk/sites/default/files/2021-06/WRAP-Surplus-food-redistribution-in-the-UK-2015-2020.pdf> accessed 21 June 2021.
[12] ibid 1.
[13] ibid.
[14] ibid 12.

but instead linked to continuing increases in the availability from food businesses combined with increases in the capacity of the redistribution sector to handle surplus food.[15] Yet, despite such impressive growth, WRAP estimates there may still be an additional 500,000 tonnes per annum of surplus in the supply chain. That said, WRAP stated there was 'considerable uncertainty around the practical and commercial feasibility of realising over half of this'.[16] While redistribution of surplus food should be the low-hanging fruit of waste prevention, as WRAP pointed out, 'it's proved a challenge for many businesses'.[17]

The extent to which the Courtauld commitment/IGD Roadmap have facilitated increases in food redistribution is hard to discern. However, the impression from WRAP and the food businesses interviewed is that there is little doubt that meeting food waste reduction targets has played an important role. WRAP has claimed:

> The work done by the Courtauld 2025 Working Group has continued to be central to efforts aimed at increasing the amount of food redistributed across the UK, and the national results are consistent with data from Courtauld signatories and businesses committed to the UK Food Waste Reduction Roadmap. For example, Aldi published data showing a doubling in charitable redistribution between 2018 and 2019, and the Co-op reported a four-fold increase over the same time period.[18]

As WRAP has also pointed out, the Commitments reporting obligations improve transparency on levels of surplus and waste, and having 'mechanisms to 'Act', ensure that as much surplus 'good food' as possible is redistributed rather than wasted'.[19]

Interviews with retailers indicated that, in terms of waste prevention and meeting voluntary commitments, redistributing surplus was the obvious starting point.[20] With the majority of retailers now publicly reporting their food waste inventory, showing increased levels of redistribution year on year also has obvious reputational benefits. For example, the retailer Iceland has been held up by WRAP as an exemplar in food waste reduction, achieving a 23 per cent reduction in 2020 over the previous year, nearly all of which is down to increased redistribution.[21]

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[15] ibid 20–21.
[16] ibid 23–24.
[17] Interview with Andrew Parry, 'Interview 28-29: WRAP' (21 January 2021).
[18] Parry and Harris (n 11) 22.
[19] IGD WRAP, 'The Food Waste Reduction Roadmap Progress Report 2020' (Waste and Resources Action Programme 2020) BCP001-GEN 2 <https://wrap.org.uk/sites/default/files/2020-10/Food-Waste-Reduction-Roadmap-Progress-Report-2020.pdf>.
[20] Interview with Robert Bailey, 'Interview 20: RET01 Marks & Spencer' (21 November 2020).; Interview with Anonymous Retailer, 'Interview 26: RET02' (13 January 2021).; Interview with Benjamin Thomas, 'Interview 14: RET03 Waitrose' (14 October 2020).
[21] WRAP (n 19) 16.

Further up the supply chain, in the food manufacturing sector, all the food producers interviewed were partnered with redistributors and saw redistribution as playing a key role in meeting their sustainability commitments. In primary production, the larger producers, who were all signatories to Courtauld or the Roadmap, were also actively working with redistributors. The smaller producers, some of whom had never heard of Courtauld or the Roadmap, were, nevertheless, aware of opportunities to redistribute food. However, these producers stated that usually their surplus quantities were too small to make collection economical for redistributors.[22] Nevertheless, one small grower described how they were contributing when product was rejected at depot. The Co-op has set up a scheme where produce rejected at depot for quality reasons (size or cosmetic issues) is automatically donated to FareShare.[23] Suppliers are automatically 'opted in' to the scheme unless they specifically opt out. This is a good example of a win–win solution; if rejected fresh produce is returned to the supplier it is normally unfit for redistribution by the time it gets back, and is usually sent to the field to be ploughed in.[24] The scheme makes redistribution more efficient for the retailer and saves the supplier time and money, as supermarkets often charge fees in the region of £200 per pallet to dispose of rejected produce.[25] Whether the food redistributed from the scheme was attributed to Co-op or the grower was unclear. However, what was clear from the discussions with retailers and food producers was that redistribution played a very important role in meeting voluntary food waste prevention targets.

6.3.1. Poverty and the Social Licence

This research has found that moral motivations, or the civic duty to do the right thing, appear to be a stronger driver for collaboration with food redistributors than supply chain efficiencies. That said, there are also self-interest factors that help reinforce action. Redistributing food to people in need has obvious reputational benefits for retailers and brand manufacturers, but even for businesses further up the supply chain, or those whose brands are not necessarily visible to the consumer, there are benefits to be accrued. Interviews with retailers and food manufacturers revealed that food redistribution provided a feel-good factor for employees working for below the living wage and, in some cases, in poor conditions. Involvement in redistribution was seen as one factor that helped improve community standing, and therefore, assisted firms to recruit and retain staff. This section begins by highlighting the extent of food insecurity in the UK before explaining how the link between poverty and reputational benefits has helped drive increased efforts to redistribute food. However, the moral motivation for

[22] Interview with Anonymous Primary Producer, 'Interview 01: PP01' (28 January 2020).; Interview with Anonymous Primary Producer, 'Interview 03: PP02' (4 March 2020).
[23] Interview with Primary Producer (n 22).
[24] Interview with Primary Producer, 'Interview 03: PP02' (n 22).
[25] Interview with Primary Producer, 'Interview 01: PP01' (n 22).

redistribution still, to some extent, requires an accompanying economic justification.[26] As will be shown below, food producers usually ensure as much commercial value as possible is obtained from products before turning to charitable redistribution routes.

In 2019/2020, 5 million people in the UK were living in food-insecure households.[27] Over the last decade there has been an alarming increase in the use of food banks, of which there are now at least 2,300 across the UK.[28] The extent of food insecurity was already troubling, and the Covid-19 pandemic has only exacerbated the situation.[29] Therefore, it is unsurprising that, in discussions with retailers and food producers, interviewees were keen to declare that they were doing their upmost to ensure that any surplus food fit for human consumption does not go to waste. As one retailer stated, 'we would like to see 100 per cent of our edible surplus redistributed for human consumption by 2025. That's something that we're working on in quite a focused way at the moment'.[30] And, as one food manufacturer explained, 'there's absolutely a moral aspect, none of us believe that we should be wasting something that somebody could eat. We try, quite heavily, to support the food distribution companies, FareShare, Company Shop and we do a lot with just little, regional and local charities'.[31]

In terms of retail motivation, these findings align with those of Swaffield and others, who found that supermarkets justified their efforts to redistribute food based on the moral imperative of feeding those in need, and that donating surplus was a 'natural' response to the current levels of food insecurity.[32] Nevertheless, previous research has found that redistribution also offers reputational benefits. Partnering with charitable organisations provides PR opportunities that enhance retailers' brand reputation by portraying them as responsible corporate citizens.[33] Therefore, the social licence provides further justification for why reputationally sensitive retailers and brand manufacturers engage in food redistribution. However, this research has additionally found that food redistribution also increased reputational capital in more nuanced ways. As Esty and Winston have pointed out, businesses that engage in socially responsible activities may find it easier to recruit and retain skilled and productive workers.[34] Here, food

[26] Interview with Lindsay Boswell, 'Interview 25: RED04 FareShare' (16 December 2020).
[27] Brigid Francis-Devine, Danechi Shadi and Gloria Tyler, 'Food Poverty: Households, Food Banks and Free School Meals' (House of Commons Library 2021) Briefing Paper HC 9209 6 <https://researchbriefings.files.parliament.uk/documents/CBP-9209/CBP-9209.pdf> accessed 9 February 2021.
[28] ibid 11.
[29] Margo Barker and Jean Russell, 'Feeding the Food Insecure in Britain: Learning from the 2020 COVID-19 Crisis' (2020) 12 Food Security 865.
[30] Interview with Bailey (n 20).
[31] Interview with Anonymous Food Manufacturer, 'Interview 12: LFM02' (10 September 2020).
[32] Joanne Swaffield, David Evans and Daniel Welch, 'Profit, Reputation and "Doing the Right Thing": Convention Theory and the Problem of Food Waste in the UK Retail Sector' (2018) 89 Geoforum 43, 46.
[33] ibid 47.; Alexander and Smaje (n 9) 1295.
[34] Daniel C Esty and Andrew S Winston, *Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage* (Wiley & Sons 2006) 228.; Jonathan C Borck and Cary

redistribution offers the opportunity for businesses to make a very visible and meaningful contribution to the local community.

Interviews with some large food manufacturers revealed an important connection between localised poverty and the businesses' social licence. As one manufacturer involved in poultry processing said:

> If someone is looking for a job in the area, we want to be seen as a good employer. We don't want to be looked at negatively, as a poor payer, or a noise polluter, but as somewhere that people are actually quite proud to work. So, part of that is working with the local community. If you've got a couple of local charities that take your food surplus and give it to local people that don't have a lot of money, it helps that local community see you in a better light.[35]

Therefore, donating to charities enhances the reputation of businesses, but it also gives employees a sense of pride in their organisations, as FareShare's CEO explained:

> In some of these organisations, the work itself isn't exactly rewarding. Let's not kid ourselves, people working in refrigerated factories, or even on supermarket checkouts are doing so as an alternative to going hungry. But I've sat down with the staff in those organisations and heard them turn around and say to their managers, because we are doing the right thing with all of the surplus, for the first time in the 10 years I've worked here, I feel proud to work for this business. The HR departments just go nuts over that.[36]

The fact that food businesses can make a real difference to people's lives in the local community enhances employee engagement, and because it is often the staff on the factory or shop floor that decide what food goes in the bin, employee engagement can lead to greater levels of redistribution.

For some businesses, the Covid-19 pandemic has highlighted the need for greater redistribution. As one manufacturer put it:

> Something that's come out of this [pandemic], a lot of people have realised just how many charities there are out there and just how many people there are that are in need.

Coglianese, 'Voluntary Environmental Programs: Assessing Their Effectiveness' (2009) 34 Annual Review of Environment and Resources 305.

[35] Interview with Anonymous Food Manufacturer, 'Interview 19: LFM05' (9 November 2020).

[36] Interview with Boswell (n 26).

> I think it's opened some people's eyes, wow, we need to make sure that we do distribute this surplus and not treat it as if its waste. Historically it would have been sent to AD, you know, it's not even the same game is it.[37]

In some cases, doing the right thing in the local community has seen businesses go beyond surplus donation, and there were some examples of companies donating premium product. One manufacturer described how they had made thousands of sandwiches a week to give out as food parcels.[38] Another meat processor described how engaging with local charities in redistribution had really highlighted the problem of local food poverty and led them to go further than surplus donation in some locations:

> We were living in our little white class bubbles and hadn't really understood how much of an issue there was in the immediate locality… When you actually realise how severe the issues can be … I think if you'd have asked before there probably would've been more of a commercial aspect to it. I think even at the top now, because they really understand the need and impact, actually, a huge amount of what we're giving is not surplus. We're just giving prime product, because a lot of the charities, especially the local ones we work with, they need to know they're going to get some protein.[39]

The findings above indicate that the social licence to operate is a powerful motivating factor for redistribution. The reputational benefits associated with redistributing surplus food go beyond demonstrating green credentials to environmentally conscious consumers. Food redistribution provides businesses with a means of enhancing standing within the local community and providing employees with a sense of pride in the workplace. The pandemic has increased the visibility of UK food insecurity and the impact donations can make in a hyper-local sense, and in some cases, this may negate the financial costs.

However, this is an exception, not the rule, and this research has found that, in most cases, the extent and route of surplus redistribution is contingent on financial considerations. Interviews with retailers and food manufacturers indicated there was a preference for offering surplus to Company Shop in the first instance, because they pay for the product (albeit at a highly discounted price). Therefore, there is an opportunity to extract as much commercial value as possible from products before turning to charitable redistribution routes. As one redistribution charity pointed out, 'the moral motivation for redistribution still, to some extent, requires an accompanying economic justification'.[40]

[37] Interview with Norman Watson, 'Interview 09: LFM01 Greencore Group Plc' (11 June 2020).
[38] ibid.
[39] Interview with Food Manufacturer, 'Interview 12: LFM02' (n 31).
[40] Interview with Boswell (n 26).

6.3.2. Addressing Tensions in the Waste Hierarchy: Government Funding for Redistribution

In addition to moral and reputational imperatives, another factor driving increased redistribution has been financial support from the devolved governments. Government grants have helped to increase the capacity of the redistribution sector and ease existing tensions within the waste hierarchy.

As pointed out in Chapter 2, regulatory interventions have tended to focus on food that has already become waste.[41] One of the barriers to redistribution has been the fact that economic instruments have been deployed to realise the potential of food waste as a source of renewable energy.[42] Surplus and waste caused by overproduction help support other beneficial environmental and social objectives. Using food waste as a source of renewable energy through AD has helped to meet obligations under the Renewable Energy Directive and a range of other objectives across a number of government departments.[43] Importantly for government, the capital-intensive infrastructure required for AD also provides employment and contributes to economic growth.[44] Subsidies had increased the capacity of AD[45]; however, in England, growth in the sector has not been supported by local authorities increasing the volume of separately collected household food waste. In 2018, less than half of all local authorities in England were providing separate food waste collections.[46] The shortfall has driven down the cost of disposing of surplus food through AD.[47] These factors have created tension in the waste hierarchy by making it cheaper and easier for retailers and food producers to dispose of edible food surplus through AD rather than redistribute it to people or animals.[48] This illustrates the complexity and interrelatedness of environmental problems in that solutions to one problem create problems elsewhere.[49] Further, that in the food waste regulatory space,

[41] Carrie Bradshaw, 'Waste Law and the Value of Food' (2018) 30 Journal of Environmental Law 311, 12.
[42] See Bradshaw's discussion of the tension between anaerobic digestion and food redistribution. Carrie Bradshaw, 'Waste Law and the Value of Food' (2018) 30 Journal of Environmental Law 311, 322–323.
[43] Defra, 'Energy from Waste: A Guide to the Debate February 2014 (Revised Edition)' (Crown Copyright 2014) For Defra, it helps divert waste out of landfill; for DECC it is a potential source of low carbon energy; for DCLG it can be a contributor to waste planning objectives and for DfT it is a potential source for a variety of low-carbon transport fuels.
[44] Defra, 'Waste Management Plan for England.' (London: Crown Copyright 2013) 13.
[45] AD is subsidised by a combination of incentives, including feed in tariffs, renewable heat incentives and renewable obligation certificates; see Defra and Department of Energy and Climate Change, 'Anaerobic Digestion Strategy and Action Plan: A Commitment to Increasing Energy from Waste through Anaerobic Digestion' (Crown Copyright 2011) 3.
[46] Defa, 'Digest of Waste and Resource Statistics: 2018 Edition' (Crown Copyright 2018) 57.
[47] WRAP, 'Gate Fees Report 2017: Comparing the Costs of Waste Treatment Options' (Waste and Resources Action Programme 2017) RCY111-001 6.
[48] Bradshaw, 'Waste Law and the Value of Food' (n 41) 329. In 2018, the cost of food redistribution is estimated at £100 per tonne; gate fees for AD vary by location but are around £25 per tonne.
[49] John S Dryzek, *The Politics of the Earth* (Third, Oxford University Press 2013) 9.

power and control is fragmented between a range of actors with different regulatory objectives.[50]

Addressing the imbalance of support for AD in comparison to redistribution is another factor that has helped drive increased surplus redistribution. As WRAP pointed out, 'Redistribution has had a huge profile over the last few years, Fareshare and other organisations have been very effective at raising the political profile of redistribution, and as a result, Michael Gove got behind it and invested a lot of money'.[51] The heightened political profile of redistribution was reflected in the 2018 *Waste Strategy,* which stated, 'Even the most efficient food system in a developed economy will produce a surplus. The best outcome is that this is redistributed before it becomes waste'.[52] In 2019, Defra made available £15 million of grant funding through the Resource Action Fund to be distributed by WRAP.[53] Since 2019, WRAP has shared around £12 million from the fund amongst 250 redistribution projects to 'increase the capacity and capability of the redistribution sector'.[54] In addition, the pandemic has seen further support from government with a £3.8m Covid-19 Emergency Surplus Food Grant scheme to further enable food to be redistributed to those in need.[55] WRAP estimates that funding has enabled a 50 per cent increase in the volume of surplus redistributed in 2020, and this has 'laid the foundations for further increases in the future'.[56] However, there is a need to be cautious about measuring the potential and success of food redistribution by volume. As Alexander and Smaje argue, improved volumes do not necessarily equate to increased nutritional value.[57] Existing research has shown that charitable redistribution, in particular, is subject to the vagaries of consumer supply and demand, and getting the right balance of food, particularly protein and fresh fruit and vegetables, can be extremely challenging.[58]

6.3.3. Cost-Neutral Redistribution

This research has found that there have been tensions between competing redistribution organisations in relation to the use of the funding received. Charitable redistributors have criticised WRAP for giving tax-payer's money to for-profit redistributor Company Shop,[59] while there has been criticism levelled at FareShare for using grant money to simply purchase food.[60] The latter has raised concerns around the sustainability of the charitable model and in

[50] Julia Black, 'Decentring Regulation: Understanding the Role of Regulation and Self-Regulation in a "Post-Regulatory" World' (2001) 54 Current Legal Problems 103, 108.
[51] Interview with WRAP.
[52] HM Government, 'Our Waste, Our Resources: A Strategy for England' (London, Crown Copyright 2018) 100.
[53] Parry and Harris (n 11) 7.
[54] ibid.
[55] Barker and Russell (n 29) 867.
[56] Parry and Harris (n 11) 4.
[57] Alexander and Smaje (n 9) 1291.
[58] Midgley, 'The Logics of Surplus Food Redistribution' (n 9) 1884.; Alexander and Smaje (n 9).
[59] Interview with Boswell (n 26).
[60] Interview with Game (n 10).

particular, the extent to which food producers should be compensated for their efforts to make surplus food available. As will be argued below, at the heart of the problem is the role of the State in providing for people in abject poverty not just food, but the right food. The remainder of this section discusses how grant funding has been used by the major food redistributors FareShare and Company Shop to increase their share of surplus for redistribution.

6.3.3.1. FareShare: Surplus with Purpose

The problem of getting the right balance of food to people in need has led to charitable redistribution organisations paying food producers to offset the costs of getting certain types of food out of the waste stream. As discussed in Chapter 1, nutritious food is being wasted throughout the supply chain, and particularly in primary production, where farmers sometimes plough surplus crops back into the ground because it is uneconomical to harvest them. In terms of increasing levels of redistribution and optimising the mix of food, as FareShare, pointed out, 'the ultimate solution within the space, particularly for manufacturers and growers, is to make it cost neutral'.[61] As one redistributor explained, 'the cost of making surplus available is quite a hurdle to overcome in some parts of the supply chain. So, although we primarily seek donations, we will price match things like animal feed so its cost neutral for them'.[62]

To demonstrate the potential volume of food that could be unlocked through payments to food producers, FareShare undertook a trial with pilot funding from government.[63] Payments were made to food producers 'designed to cover the costs of harvesting, storing, packing and transporting food that would otherwise have been ploughed back into the ground, sent to anaerobic digestion, animal feed, composting or incinerating'.[64] This model proved very effective in terms of diverting edible food from the waste stream.[65] FareShare claimed that it was this work that laid the foundation for the government's £15 million Resource Action grant scheme for redistribution, from which FareShare received £1.9 million.[66] These funds were used to set up FareShare's Surplus with Purpose fund, which was launched to coincide with the start of the grant funding in May 2019. With the onset of Covid-19, in addition to the initial funding, FareShare raised a further £5 million through donations and further grant money allocated from the government's Covid 19 Emergency Surplus Food Grant.[67]

[61] Interview with Boswell (n 26).
[62] Interview with Game (n 10). Despite the legal duty in the waste hierarchy to prioritise surplus redistribution to humans over animals, businesses that use surplus to produce animal feed pay producers for surplus food. Therefore, it is more economical for food producers to send surplus for animal feed.
[63] Interview with Boswell (n 26).
[64] FareShare (n 7) 4.
[65] Interview with Boswell (n 26).
[66] ibid.
[67] See 'COVID-19 Emergency Surplus Food Grant: Award Recipients | WRAP' <https://wrap.org.uk/covid-19-emergency-surplus-food-grant-award-recipients> accessed 10 September 2021.

The Surplus with Purpose scheme has proved extremely successful in unlocking surplus that may have previously been wasted; WRAP estimates that the fund enabled around 4,500 tonnes of additional surplus to be redistributed in 2019/2020.[68] However, there are questions around the sustainability of paying food producers to access surplus. This research has found that some of the producers who have taken part in the scheme were doubtful whether surplus would continue to be made available without the payments. One meat processor described how payments from the Surplus with Purpose scheme enabled them to combine end-of-run ingredients from several batches of sausage production to make off-spec sausages for redistribution.[69] In six months they had provided FareShare with the equivalent of 200,000 meals made with ingredients that in the past would have been wasted.[70] With the funding, this is obviously a win–win for food waste and people in need. However, when questioned whether this product would continue to be made available in the absence of payments, the processor stated:

> I would like to think that we would carry on doing what we're doing, just because we know what an impact it's had. I'd like to think, if the funding stopped, we would do it. But I'd have to stand here hand on heart and say, I can't 100 percent say we would be able to do it.[71]

A ready-meal producer described how Surplus with Purpose funding allowed them to package and redistribute mashed potato that was previously discarded, in a way that FareShare were able to manage.[72] Nevertheless, as the manufacturer explained:

> Obviously, it takes a lot of time and effort, and the cost of the packaging and so on. But we can do it in a way that then allows them to use it. The problem without the grant is that somebody has to incur that cost and it's not going to be FareShare because they haven't got the money … We've already bought the raw material, and we've produced something out of it, to then have to pay to have it repackaged to send it to them for free, it doesn't quite add up.[73]

In discussions with other redistribution organisations, the fact that FareShare was using grant funding simply to buy food was questioned on sustainability grounds.[74] As the discussion

[68] Parry and Harris (n 11) 22.
[69] Interview with Food Manufacturer, 'Interview 12: LFM02' (n 31).
[70] ibid.
[71] ibid.
[72] Interview with Food Manufacturer, 'Interview 19: LFM05' (n 35).
[73] ibid.
[74] Interview with Marren (n 2).; Interview with Game (n 10).; Interview with Parry (n 17).

above indicates, there may well be difficulties in maintaining the levels of surplus acquired without payment for expenses incurred by food producers. Nevertheless, this raises normative questions around the role of the State and who should be responsible for ensuring that people in abject poverty receive nutritious food, and I will return to those questions below. However, Defra's Resource Action fund was not limited to charitable redistributors; WRAP also allocated £1.97 million in funding to for-profit redistributor Company Shop. Because Company Shop does not require funds to enable them to purchase food, the grant funding has been employed in what it claims to be much more sustainable ways 'to help educate, inform and inspire food producers around the subject of reducing waste and doing the right thing with their surplus'.[75] Interestingly, a joint report by Defra and Company Shop points out that, 'investment should be made in infrastructure and knowledge, in order to create sustainable solutions, as opposed to spending the investment on the purchase of stock'.[76]

6.3.3.2. Company Shop: Harnessing Hard-to-Reach Surplus

Company Shop, like most for-profit businesses, is continuously looking to expand its market share. Educating and inspiring food businesses on areas where redistribution might be possible not only helps food producers meet voluntary food waste reduction targets but also helps Company Shop secure future volumes of surplus food. As Company Shop explained, 'the reason that we're investing in education is because it enables us to access more stock'.[77] The purpose of the funding is to help the organisation harness so-called hard-to-reach surplus, surplus further up the supply chain that requires more complex interventions,[78] and thereby divert surplus from the waste stream that has not previously been redistributed due to the cost and complexity of accessing it.[79]

The grant funding has been used to engage with and educate food producers in a number of ways, including employing a team of 'surplus intervention specialists' who work with food producers 'to identify and provide practicable solutions for product which is currently being classed as "waste" instead of valuable "surplus"'.[80] The fund has also been used to launch what Company Shop calls the Luminary Programme, a mentoring programme for industry designed to find and grow the sustainable business leaders of the future.[81] The programme

[75] Interview with Marren (n 2).
[76] Company Shop and Defra, 'Ingenuity Harnesses: Harnessing Harder to Reach Surplus a Partnership Project with Defra' (Company Shop Group, Department for Environment Food & Rural Affairs 2020) 6 <https://www.companyshopgroup.co.uk/content/files/companyshop/Harnessing%20Harder%20to%20Reach%20Surplus%20Report.pdf> accessed 13 September 2021.
[77] Interview with Company Shop.
[78] Interview with Marren (n 2).
[79] 'Harnessing Harder to Reach Surplus | The Company Shop Group' (*Company Shop Group*) <https://www.companyshopgroup.co.uk/surplus-solutions-harnessing-harder-to-reach-surplus> accessed 12 September 2021.
[80] ibid.
[81] Parry and Harris (n 11) 8.

brings together delegates from industry who are passionate about reducing food waste and want to make a difference. However, in recognition of the difficulties of implementation, delegates can only join if they have a senior sponsor within the business, someone with the power to put into practice measures identified to increase surplus redistribution.[82] The programme itself offers a series of modules, including different problem-solving techniques and tools, to work through the challenge of reaching surplus and how to build allies and stakeholder engagement. Delegates from competitive companies are encouraged to work together to come up with innovative solutions to common problems. In doing so Company Shop is also communicating its redistribution capabilities and what it perceives to be best practice to current and future industry leaders and thereby expanding its reach within the food industry. Thus Company Shop adds value to the industry but also positions itself as the most sustainable solution to the food waste problem. As the group MD explained:

> By sharing best practice, we're also sharing our capabilities, which then adds to the scale, because my view is the more stock that suppliers redistribute through us, the more profit you make, so the more you can invest, so then the more stock that we can deal with.[83]

Early evaluations of the Hard-to-Reach surplus initiative show that the programme has been extremely successful in terms of increasing the amount of redistribution from food producers. Company Shop has reported that levels of hard-to-reach surplus have more than doubled in 2020, and although Covid-19–related disruption to the food service sector has meant there has been abnormally high levels of surplus available, Company Shop has estimated that 61 per cent of the increased volume captured in 2020 will continue to be available for redistribution in the future.[84] Therefore, Company Shop claims that using grant funding to harness hard-to reach surplus is a more sustainable use of public funds than simply paying food producers for surplus because the impact will be felt for decades after the funding has come to an end.[85]

There is clearly conflict here between the UK's two largest redistribution organisations, who are, in effect, competing against each other (and others) for a greater share in the UK food surplus pie. Whether Company Shop's redistribution model is more sustainable than FareShare's depends to a great extent on who the end user is and their ability to pay. What it boils down to is whether the charitable redistribution sector should have to rely on the vagaries of the market for surplus or should have funds available to enable them to supplement

[82] Interview with Marren (n 2).
[83] ibid.
[84] Company Shop and Defra (n 76) 13.
[85] ibid 4.

donations so that a nutritious balance of food can be provided to those in abject food poverty. When it comes to surplus that requires payment for access, both organisations endeavour to make it cost-neutral for the food producer. However, the playing field is not level; the difference is, Company Shop is able to pass this cost on to their members, while FareShare obviously cannot.

6.4. The Impact of Competition on Effective Redistribution

Regarding effectiveness, this research has found that competition between redistribution organisations has led to gaps in the network and sometimes a failure of donated food to reach an end user.

There is little doubt that efforts to make redistribution cost-neutral have increased the volumes of food being made available by food producers. However, there is anecdotal evidence that competition between redistributors is impacting negatively on the overall effectiveness of redistribution. According to one member of the Courtauld Redistribution Working Group, the fight between redistributors to secure volumes of surplus from certain retailers and manufacturers was, at times, resulting in that surplus food not finding its way to the people who need it.[86] One of the issues for retailers and food producers is that when surplus is created the redistribution organisation must actually turn up to collect it.[87] Therefore, reliability is an important factor when it comes to partnerships between redistributors and donors. However, the available surplus may not always be what the redistributor actually needs or can handle at that time. The pressure to collect means that sometimes what is picked up cannot be utilised by that organisation but could have been used by another redistributor. As the interviewee explained,

> One of the big concerns is that there is a lot of product going into those redistribution organisations on the basis of not just doing good, but obviously avoiding it going to food waste. But some is still ending up going to waste because they're not collaborating effectively enough to ensure that they can get it all to the end user.[88]

As this interviewee pointed out, ‘it's not only a big gap performance-wise, but my concern is also if that became visible to the general public, it could have a big adverse impact on support for redistribution as well’. Food sent for redistribution is recorded by retailers and food producers and counts towards waste reduction targets. Nevertheless, how much surplus currently enters the redistribution network only to end up being wasted due to lack of

[86] The interviewee wished to remain anonymous.
[87] Interview with Bailey (n 20).; Interview with Anonymous Food Manufacturer, ‘Interview 24: LFM07’ (4 December 2020).
[88] Anonymous member of the Courtauld Redistribution Working Group.

coordination (and the fact it may not be fit for redistribution) is a big question to be answered.[89] A study by Alexander and Smaje in 2008 estimated that as much as 40 per cent of donated surplus food returns uneaten to the waste stream.[90] With redistribution accounting for a significant portion of food waste reduction gains, there is a need for further research here.

Another problematic area in terms of competition relates to retail own-brand products. Although good progress has been made in reducing the barriers associated with redistributing retail own-brand products, this research has found that competition between redistributors over authorisations means some edible surplus continues to be wasted.

Retail control over own-brand products has been identified as a barrier to redistribution for some time.[91] Early research found that retailers maintain 'quite aggressive policies concerning food storage and safety by recipients to minimise the danger of branded product being sold on or otherwise inappropriately disposed of by the end-user clients'.[92] A problem with branded products is that surplus often occurs at the site of production and, while the manufacturer technically owns the product, the retailer owns the brand. Therefore, permission must be sought from the retailer before product can be released for redistribution. The time and effort required meant that, in the past, own-brand products sometimes expired before they could be redistributed. Good progress has been made here; the larger redistribution organisations have 'developed "assurance" guidelines for managing the food they receive, including reproducing audit and inspection, and traceability regimes in their own operations and the receiving charities'.[93] Interviews with the large redistributors and retailers revealed that there was now a high level of trust that donated food would be managed safely and legally. The larger organisations have approvals to handle all the major retailers' branded products.[94] Nevertheless, as Midgley has identified, the need for authorisation and partnerships between retailers and the major redistribution organisations is a barrier to smaller charities and new entrants.[95]

Although grant funding has seen the capacity and capability of the redistribution sector increase, there are still gaps in the network when it comes to authorisations. In the charitable sector this creates waste if the authorised charity is unable to collect. The nature of charitable redistribution means that there might be a myriad of reasons for such failure, including labour

[89] Interview with FareShare.
[90] Alexander and Smaje (n 9) 1299.
[91] ibid 1295.; Midgley, 'The Logics of Surplus Food Redistribution' (n 9).
[92] Alexander and Smaje (n 9) 1295.
[93] Jane L Midgley, 'Anticipatory Practice and the Making of Surplus Food' (2019) 99 Geoforum 181, 185.
[94] Interview with Boswell (n 26).; Interview with Marren (n 2).
[95] Midgley, 'Surplus Food Redistribution' (n 6).

shortages, logistical difficulties and the current volumes of certain types of food the redistributor has at the time.[96] As one of the smaller redistributors complained:

> I can't engage with certain factories if I know they're private label. They'll ring me up and say, I've got all these surplus ready meals going to waste, do you want them? And I'm like yes, I do. Right, which retailer approvals have you got. Well, I've got Asda, M&S, Co-Op. Have you got Tesco? No. Well I can't give it to you then because its Tesco product. So, the manufacturer wants to give me the food, but they can't without the retailer's explicit permission and the retailers have only ever given full permission to FareShare. That is a fundamental problem for me.[97]

Bearing in mind food manufacturers' preference for donating food within the local community, the fact that edible food is going to waste for lack of authorisation is clearly problematic. An anonymous member of the Courtauld Redistribution Group expressed concern that competition between redistribution organisations has led to a failure to collaborate, and in fact, there was concern that FareShare was actively 'trying to exclude other redistribution organisations from the space'.[98] According to WRAP, there is still potential to redistribute approximately 100,000 tonnes from manufacturing alone.[99] Research by Anthesis has shown that almost three-quarters of the edible food surpluses in food manufacturing that could be donated are within the retail own-label supply chain.[100] Where prior authorisation has not been given, this food is extremely difficult to unlock. This is because it requires the retailer to provide resources to approve the donation and the technical managers' time at the factory to ensure they have the correct authorisation and documentary evidence to allow such donations. Such approvals are incredibly difficult to obtain by food manufacturers and charities simply because they are resource-intensive, and the retailers rarely have resources to address such matters.[101]

[96] Interview with Game (n 10).
[97] ibid.
[98] Interviewee wanted to remain anonymous.
[99] Parry and Harris (n 11) 23.
[100] Anthesis, 'Retail Own Label Food Waste Statistics' (2020) Report Prepared for The Bread-and-Butter Thing 1 Unpublished.
[101] ibid.

6.5. Redistribution, Overproduction and Responsibility for Dealing with Poverty

While increased food redistribution has a positive impact on levels of food waste, it does not question why such high levels of surplus exist in the food production system in the first place. In effect, all that has happened is that we have moved a portion of surplus up the waste hierarchy from AD. As Midgley has pointed out, 'surplus food redistribution is an accommodation of overproduction in the food system with the practice alone offering little incentive to change industry behaviours'.[102] As stated previously, for retailers and food producers, the fear of a lost sale is greater than the fear of waste, and therefore redistribution mitigates the risks and costs of maintaining high levels of availability.[103] Nevertheless, overreliance on food redistribution as the primary means for meeting the Courtauld and IGD Roadmap food waste reduction targets distracts food producers from tackling the root cause of food waste, overproduction. However, as this research has shown, redistribution has recently become more advantageous, both reputationally and economically, and this is likely to pose a significant barrier to the collaborative efforts required to reduce levels of overproduction.

The problem is that the government has increasingly relied on food redistribution as a means to improve access to food for both people in food-insecure households and those in abject poverty.[104] This approach has been particularly visible during the pandemic with the government's £3.25 million of emergency funding for redistribution. In effect, the government has relied on overproduction in the food system to support vulnerable people. It has then subsidised those corporations who overproduce to redistribute surplus in a 'fashion that boosts their reputation as good corporate citizens'.[105] While food redistribution may 'augment the food supply to food banks and other charitable providers of emergency food, such interventions fail to address the structural reasons why people are queuing for emergency food relief'.[106] As Bradshaw has pointed out, 'if redistribution becomes more than a temporary stop-gap to the

[102] Midgley, 'The Logics of Surplus Food Redistribution' (n 9) 1898.
[103] Carlos Mena and others, 'Causes of Waste across Multi-Tier Supply Networks: Cases in the UK Food Sector' (2014) 152 International Journal of Production Economics 144, 153.
[104] Barker and Russell (n 29) 867.
[105] Kayleigh Garthwaite, 'It's Not the Hungry Who Gain Most from Food Banks – It's Big Business' *The Guardian* (25 March 2019) <https://www.theguardian.com/commentisfree/2019/mar/25/big-business-food-banks-subsidise-reputation> accessed 15 September 2021.
[106] Barker and Russell (n 29) 867.

coexistence of surplus, hunger and waste … this may divert attention away from the role of the state in addressing the causes of both poverty and surplus'.[107]

6.5.1. The Future of Funding for Redistribution

In discussions with WRAP, the problem of redistribution diverting attention from the root causes of food waste was acknowledged. As WRAP put it,

> We want businesses to be focusing on measuring food waste, understanding how it's generated and changing business behaviour, changing processes. We want to stop producing surplus as well as this waste, ideally, getting everything in perspective.

In terms of further financial support for redistribution organisations, WRAP indicated that there was a reluctance to provide public funding for redistribution organisations in the future, particularly public funding for food purchases. As WRAP explained:

> It's no secret that WRAP and FareShare have had different views about the importance of the financial barriers for redistribution. However, redistribution volumes pretty much doubled between 2015 and 2018, and that was in the absence of public money. So, there's a lot that can and has been done without investing a lot of money to increase redistribution. It's questionable whether you need to spend 5 million pounds a year to get the level of redistribution that is in the sort of FareShare model.[108]

There is a conundrum here; as illustrated above, the charitable sector is currently highly reliant on organisations like FareShare for access to food. Government funding has improved FareShare's ability to provide a balance of nutritious food to the sector, especially fresh fruit and vegetables. Withdrawal of the funding for redistribution, in the absence of better provision for access to food for the vulnerable, is likely to exacerbate the impact of poverty on those people who are reliant on food banks and community kitchens. WRAP acknowledged that in cases such as fruit and vegetable production where harvesting surplus crop is often uneconomical, with 'all the will in the world farmers won't harvest that surplus unless somebody pays them to do it'.[109] However, according to WRAP, the benefit of using public funds to access this type of surplus was a decision for the economists rather than waste

[107] Carrie Bradshaw, 'England's Fresh Approach to Food Waste: Problem Frames in the *Resources and Waste Strategy*' (2020) 40 Legal Studies 321, 23.
[108] Interview with Parry (n 17).
[109] ibid.

specialists.[110] WRAP's influence on policy-makers may be evident in government funding. At the time of writing the government has signalled that it has no further funds earmarked to support food redistribution. Instead, the government is relying on WRAP and IGD to encourage businesses to redistribute their surplus voluntarily.[111]

6.6. Conclusion

As this research has found, increases in food redistribution volumes can be attributed to a number of factors including the need to meet Courtauld and IGD Roadmap reduction targets, reputational capital accrued from supporting people suffering from food insecurity, government funding for redistribution and increased trust between retailers and redistribution organisations in relation to own-brand products. As has been shown above, in the context of redistribution, the social licence is providing a strong justification for action. That said, food businesses still usually endeavour to extract as much commercial value as possible out of any surplus before turning to charitable redistribution.

Interviews with supply chain actors have revealed that competition between redistributors to secure volumes of surplus may have impacted the overall effectiveness of efforts to redistribute food to those in need. However, the fundamental problem with relying on redistribution to reduce food waste is that it does not tackle the problem of overproduction. In fact, redistribution may even encourage higher levels of overproduction by allowing the retail industry to maintain still-higher levels of availability. Government funding for redistribution has been one key factor helping to increase levels of redistribution. Nevertheless, it appears that public support for redistribution is likely to be withdrawn. Whether the gains made by FareShare's 'Surplus with Purpose' initiative will drop back down the waste hierarchy to AD or be captured by Company Shop remains to be seen. But, as a consequence, those people who are forced to rely on food charities may well have to go back to living without a balance of healthy and nutritious food. Or, as one critic of FareShare's historical service delivery model put it, 'rubbish food for rubbish people'.[112] Nevertheless, this might well help retailers and food producers focus on the root causes of food waste as a means of meeting their sustainability commitments.

The important point to take from this chapter is that redistribution is not a panacea for the problem of food waste, as it tackles the symptoms of a dysfunctional food system rather than the root causes. In the next chapter we move from waste prevention in retail supply chains to

[110] Interview with WRAP.
[111] Ian Quinn18 June 20214 min read, 'Government Rejects Calls for Food Redistribution Funding despite HGV Hunger Crisis' (*The Grocer*) <https://www.thegrocer.co.uk/supply-chain/government-rejects-calls-for-food-redistribution-funding-despite-hgv-hunger-crisis/657235.article> accessed 16 September 2021.
[112] Alexander and Smaje (n 9) 1295.

look at actions taken by retailers and food producers to reduce household food waste, moving back to prevention measures that reside at the top of the waste hierarchy.

Chapter 7 - Reducing Household Food Waste

7.1. Introduction

The previous chapter was concerned with efforts to prevent surplus food in the supply chain from becoming waste, but, as was pointed out, redistribution addresses food waste, a symptom, rather than overproduction itself as the root cause. In this chapter we turn to voluntary efforts to reduce food waste at the consumption end of the food chain. Recall Chapter 1, where it was argued that the gap between the quantity of food the retail market makes available and what consumers need to maintain a healthy diet means a significant proportion ends up being wasted. The surplus created by high levels of availability could be reduced if retailers made less food available. However, reducing availability in the direct sense is not the only option. As the majority of post-farm gate food waste arises in the household, reducing the amount consumers waste has the potential to lower levels of production indirectly. In theory, if consumers waste less food they will purchase less, and this should send a signal to retailers and the supply chain to reduce levels of production. As was argued in Chapter 1, strong prevention requires taking measures to address the problem of consumer over-purchasing. This means interventions that seek to prevent the risks and costs of overproduction from being transferred onto consumers.

However, as Chapter 5 has shown, strong prevention measures require a high degree of industry collaboration. In terms of implementing measures to reduce household food waste, one of the main findings of this research is that competitive positioning around consumer perceptions of quality and choice has limited collaboration among Courtauld signatories. In addition, along similar lines to Chapter 5, it is argued that reducing household food waste requires retailers to take more responsibility for the risks and costs of food waste rather than deflecting them downstream onto the consumer.

According to the Courtauld Commitment Milestone Progress report, 'Households are where WRAP has focused the most effort and resources, and where Courtauld 2025 partners are helping to deliver change'.[1] Therefore, an important part of this research was to assess what progress retailers and food producers were making in response to some of the most-cited causes of household food waste.

[1] WRAP, 'Courtauld Commitment 2025 Milestone Progress Report: Building a Sustainable Future for UK Food and Drink' (Waste and Resources Action Programme 2020) 13 <https://wrap.org.uk/sites/default/files/2020-08/Courtauld-Commitment-2025-Milestone-Progress-Report.pdf>.

The chapter proceeds as follows: section 2 briefly explains why reducing availability is seen as problematic by retailers. Section 3 then looks at how retailers have engaged in consumer-facing campaigns intended to reduce food waste by educating consumers about how to better plan and store the food they buy as well as use up leftovers. Section 4 assesses progress in terms of reducing levels of consumer over-purchasing through increasing the availability of smaller pack sizes as well as cutting out volume-based discounting of high-waste products. Finally, section 5 evaluates what progress has been made to address the impact of unnecessary and overcautious date labelling on household food waste.

7.2. Competition and On-Shelf Availability

As stated above, both surplus and the food waste it causes could be reduced if retailers made less food available. Interviews with retailers revealed that they are well aware of the fact that high levels of choice and availability are causing food surplus and waste. Nevertheless, these are competitive issues; retailers argue that shelves cannot be empty because they will lose customers – customers demand choice and availability. As such, they must be able to 'buy what they want when they want'.[2] 'On-shelf' availability is a measure of how often a product is not on display, which is a key performance indicator for both retailers and their suppliers.[3] Research by Mena and others concluded that, for retailers, 'the fear of a lost sale is greater than the fear of waste'.[4] This has implications for the supply chain; as was shown in Chapter 4, suppliers often overproduce to ensure that they can meet retail availability targets.

As one Courtauld working group member explained, 'if we're really going to break that cycle, it requires a whole cultural shift around accepting that I'm gonna go to the supermarket, and maybe not everything I want is gonna be there'.[5] While this sounds good in theory, countering the effect of competition would require all supermarkets to collaborate and agree to reduce levels of choice and availability simultaneously. Under normal circumstances this is clearly problematic in terms of competition law.[6] Nevertheless, the extraordinary challenges presented due to panic buying at the beginning of the Covid-19 pandemic led to a temporary relaxation in the rules and created the perfect conditions for retail collaboration.[7] Yet, as one

[2] Carrie Bradshaw, 'The Environmental Business Case and Unenlightened Shareholder Value' (2013) 33 Legal Studies 141, 152.
[3] Carlos Mena and others, 'Causes of Waste across Multi-Tier Supply Networks: Cases in the UK Food Sector' (2014) 152 International Journal of Production Economics 144, 153.
[4] ibid.
[5] Interview with Anonymous Food Manufacturer, 'Interview 24: LFM07' (4 December 2020).
[6] Section 2 of the Competition Act 1998 prohibits agreements and arrangements between businesses that restrict competition.
[7] On 19 March 2020, the UK Government announced that it would be temporarily waiving certain competition laws in order to allow grocers to coordinate their responses to supply issues during the COVID-19 pandemic. See Competition and Markets Authority, 'CMA Approach to Business Cooperation in Response to COVID-19' (Crown Copyright 2020) CMA118.

interviewee pointed out, 'if you go back to the first Covid lockdown, while there was some collaboration and consolidation of product lines to ensure supermarkets had stock, in a matter of weeks, on-shelf availability had become a competitive issue again'.[8] The message coming from retailers was 'yeah, it's a global pandemic, but come do your shopping with us, we've got more on our shelves than the guy down the road'.[9] Discussions with retailers indicate that sacrificing sales by reducing availability is not likely to happen anytime soon. As one retailer explained, 'maximising availability is one of the key levers to growing your business. You can't take money if you don't have products on shelves.'[10] Therefore, at the individual retailer level, choice and availability are linked to competition and growth in market share.

However, as stated above, reducing on-shelf availability is not the only way to reduce overall levels of production. As highlighted in Chapter 1, a significant proportion of consumer food waste is generated by upstream practices that encourage consumers to over-purchase.[11] Therefore, as gatekeepers to the consumer, retailers are uniquely well-positioned to take action to reduce levels of household food waste. They have significant capabilities and influence over the entire food supply chain.[12] Of course, the notion that retailers will help their customers buy less food is counterintuitive.[13] However, recent research by Welsh and others has found that a discourse coalition has evolved, during and as part of the Courtauld Commitment, in which retailers now acknowledge their role in food waste that occurs in the household.[14] Further, rather than framing the consumer as responsible for household food waste, retailers have acknowledged they share responsibility for solving the issue, or at least that responsibility is distributed throughout the production-consumption system.[15] Some commentators have claimed that helping consumers reduce their food waste is potentially a win–win for retailers.[16] This is because championing food waste reduction in the home can enhance a retailer's brand reputation, and money saved on food might allow customers to

[8] Interview with Alan Hayes, 'Interview 32: IGD' (29 January 2021).
[9] ibid.
[10] Interview with Robert Bailey, 'Interview 20: RET01 Marks & Spencer' (21 November 2020).
[11] Rudolf Messner, Hope Johnson and Carol Richards, 'From Surplus-to-Waste: A Study of Systemic Overproduction, Surplus and Food Waste in Horticultural Supply Chains' (2021) 278 Journal of Cleaner Production 123952, 810.
[12] Rudolf Messner, Carol Richards and Hope Johnson, 'The "Prevention Paradox": Food Waste Prevention and the Quandary of Systemic Surplus Production' (2020) 37 Agriculture and Human Values 805, 809.
[13] C William Young and others, 'Sustainable Retailing – Influencing Consumer Behaviour on Food Waste' (2018) 27 Business Strategy and the Environment 1, 12.
[14] Daniel Welch, Joanne Swaffield and David Evans, 'Who's Responsible for Food Waste? Consumers, Retailers and the Food Waste Discourse Coalition in the United Kingdom' [2018] Journal of Consumer Culture 1, 12.
[15] ibid 9.
[16] Joanne Swaffield, David Evans and Daniel Welch, 'Profit, Reputation and "Doing the Right Thing": Convention Theory and the Problem of Food Waste in the UK Retail Sector' (2018) 89 Geoforum 43.; Young and others (n 13).

spend money in store on other, more expensive non-food items.[17] Accordingly, it is claimed, there is both a reputational and economic justification for action.

7.3. Consumer-Facing Food Waste Reduction Campaigns

One way that retailers can help to reduce household food waste is through education campaigns. Although this has been classified as weak prevention, research by Young and others has shown that retailers can influence the levels of food waste experienced by their customers through information and education.[18] Retail customers who receive standard food waste messaging for prolonged periods were shown to make significant reductions in their levels of household food waste.[19] However, whether this can be achieved at scale and in a cost-effective manner is yet to be proven.[20]

Nevertheless, in terms of consumer campaigns, there does not appear to be a joined-up approach to consumer engagement by members of the Courtauld Commitment. At the time of writing, there are a number of new and ongoing consumer-facing food waste campaigns. Tesco have recently launched their own 'No Time for Waste Challenge'.[21] WRAP's 'Love Food Hate Waste' campaign has now been joined by what it calls 'its sister campaign', 'Wasting Food: It's Out of Date', which is aimed at 'motivating those who don't yet know or care about the issue of wasting food'.[22] In addition, in January 2021, a number of leading food brand manufacturers have teamed up with the anti-food waste organisation Too Good to Go to launch the 'Look, Smell, Taste, Don't Waste' campaign.[23] This campaign coincides with a switch by these brands from 'use-by' to 'best before' date labels on appropriate products and encourages consumers to use their senses to determine whether food is good to eat when past its 'best before' date.

A survey of retailer's websites shows that most now provide storage advice and/or recipes for utilising leftovers, or at least provide a link to one of WRAP's consumer-facing campaigns. Tesco aside, the rest of the retailers interviewed admitted there was a lot more they could be doing to engage with their customers. The challenge was getting the right message to the consumer without patronising them or appearing to blame them for household food waste. As one retailer stated, 'it's always difficult to engage customers on any kind of CSR related topic.

[17] Swaffield, Evans and Welch (n 16) 47.
[18] Young and others (n 13) 12.
[19] ibid.
[20] Christian Reynolds and others, 'Review: Consumption-Stage Food Waste Reduction Interventions – What Works and How to Design Better Interventions' (2019) 83 Food Policy 381, 383.
[21] See Tesco No Time for Waste Challenge at https://www.tescofoodwastechallenge.co.uk/
[22] See WRAP Website https://wrap.org.uk/taking-action/citizen-behaviour-change/love-food-hate-waste
[23] Rebecca Smithers, 'Cut Food Waste at Home by Sniffing and Tasting, Urges New Campaign' (*the Guardian*, 23 January 2021) <http://www.theguardian.com/environment/2021/jan/23/cut-food-waste-at-home-by-sniffing-and-tasting-urges-new-campaign> accessed 2 July 2021.

There's a lot of jargon banded about that actually just alienates a lot of customers'.[24] Another explained, 'There's loads that we could be doing, we do need to do, but it is that holy grail – the customer. Because you want to support them, but you don't want to be patronising and push the blame on them'.[25] Most of the retailers stated that they were looking at ways to increase their consumer engagement and actions would be forthcoming in the next year. A sceptical view is that this is just another example of retailers using the consumer as an excuse for a reluctance to act. However, engaging consumers to reduce their food waste takes significant time and investment. As WRAP pointed out, in the past, Sainsburys and Morrisons spent millions of pounds on trying to engage consumers, but both initiatives fell by the wayside.[26] This is because it takes time to see the results, and therefore it becomes difficult to justify the level of investment required.[27] Inevitably, retail focus shifts on to other pressing consumer concerns, as has been the case with single-use plastics, which, according to some retailers, is now the most urgent consumer sustainability issue.[28] Therefore, as WRAP admitted, one of the greatest challenges in terms of consumer engagement is getting sustained support from retailers.[29]

It is unclear whether the most effective approach is for retailers to support WRAP's consumer-facing campaigns or to target their own customers individually. Targeting consumers raises some difficult questions. As one retailer pointed out, 'how do we bring to life the message of food waste, and I think inspiration recipes are really important, but we also want to think through things like our digital journey. How do we do that based on what you buy? How do we provide the inspiration at that point of need?'[30] Surely these are perfect questions for retailers to be discussing within the Courtauld Commitment. After all, the problem of reducing consumer food waste is shared by all retailers. Further, with *circa* 70 per cent of all post-farm gate food waste arising in the household, there is potential to make a significant impact. It is also unclear whether Tesco's leadership here is an example of them trying to gain the reputational benefit associated with being the first mover or whether the failure of other retailers to engage is an example of freeriding because, if Tesco manages to reduce household food waste, all retailers benefit from the achievements of one Courtauld member. However, as food waste NGO Feedback point out, by moving first, 'Tesco may have shrunk the space for its competitors to also make it their issue'.[31] Nevertheless, what is clear is that there has been a failure within

[24] Interview with Lidl, 'Interview 27: RET05 Lidl' (21 January 2021).
[25] Interview with Benjamin Thomas, 'Interview 14: RET03 Waitrose' (14 October 2020).
[26] Interview with Andrew Parry, 'Interview 28-29: WRAP' (21 January 2021).
[27] ibid.
[28] Interview with Thomas (n 25).; Interview with Anonymous Retailer, 'Interview 26: RET02' (13 January 2021).
[29] Interview with Parry (n 26).
[30] Interview with Retailer (n 28).
[31] Jessica Sinclair Taylor and others, 'When There's No Waste, There's a Way (to Net Zero): A Call for Policy for Food Waste Prevention' (Feedback 2020) 12.

the Courtauld Commitment to collaborate and move together with a unified approach towards the shared problem of engaging consumers to prevent food waste in the household.

7.4. Volume-Based Pricing

Another way to reduce levels of production is to reduce the amount of over-purchasing by consumers. This in theory should send a signal to retailers to reduce the volume of product available. As highlighted in Chapter 1, volume-based pricing strategies are one of the most frequently cited mechanisms causing consumers to buy more food than they need and subsequently waste it. However, as will be argued below, although there has been some quite visible action, with the possible exception of meat products, in reality progress has been tokenistic, while, on the whole, business as usual continues.

Numerous food waste commentators have pointed out the connection between volume-based pricing and household food waste.[32] Buy-one-get-one-free offers (BOGOFs) in particular have been singled out as a key driver of household waste.[33] In recognition that marketing practices contribute to household food waste, retailers have responded by removing BOGOFs.[34] While this is a step forward, it is unlikely that this, albeit very visible, move will solve the problem of consumer over-purchasing. Volume-based pricing strategies remain commonplace. Tesco, for example, offers meat products at 'buy 3 for £10'. Considering the carbon footprint of meat, encouraging consumers to over-purchase in this category is highly problematic.[35]

Also related to volume-based pricing is packaging size; failure to make packaged food available in smaller quantities is another factor that encourages consumer over-purchasing.[36] Discussions with retailers indicated that in many categories food was now being offered in smaller quantities. As one retailer stated, 'you've got to be able to adjust your pack size and correlate that with consumption, so we've done quite a lot of pack size reduction in some areas'.[37] Meat is one category where there was evidence of good progress being made. One large meat supplier confirmed that portion sizes had changed quite dramatically over the last five years, 'We're now producing a portion size that's smaller, so the consumer consumes that piece, or that family consumes that piece, as opposed to we'll have another piece of it tomorrow'.[38] In addition, specifications have changed so that fat is now being trimmed off some

[32] Tristram Stuart, *Waste: Uncovering the Global Food Scandal* (Penguin Books 2009) 69–70.; Massimo Canali and others, 'Food Waste Drivers in Europe, from Identification to Possible Interventions' (2016) 9 Sustainability 37, 11.; Jonathon Bloom, *American Wasteland: How America Throws Away Nearly Half of Its Food (and What We Can Do About It* (Da Capo Press 2010) 270–271.; Jessica Aschemann-Witzel, Ilona de Hooge and Anne Normann, 'Consumer-Related Food Waste: Role of Food Marketing and Retailers and Potential for Action' (2016) 28 Journal of International Food & Agribusiness Marketing 271, 276.
[33] Stuart (n 32) 69–70.; Aschemann-Witzel, Hooge and Normann (n 32) 276.
[34] Welch, Swaffield and Evans (n 14) 5.
[35] Survey of local retailers April 2021.
[36] Stuart (n 32) 70.; Aschemann-Witzel, Hooge and Normann (n 32) 276.
[37] Interview with Retailer (n 28).
[38] Interview with Anonymous Food Manufacturer, 'Interview 16: LFM03' (15 October 2020).

premium cuts and utilised in other forms such as mince production.[39] As a result, the consumer is now getting meat in smaller portions and with less fat that might previously have been discarded. This is a positive development in terms of reducing household food waste and lowering the overall impact of meat consumption. However, in other retail categories like bread and fresh fruit and vegetables, WRAP's Retail Survey has shown that buying food in smaller quantities is often disproportionately expensive.[40] For example, small packs of bread (400g loaves) were on average 74 per cent more expensive per kilo than 800g loaves. Purchasing loose fresh produce was, in general, 30 per cent more expensive per kilo than equivalent pre-packed items.[41] It is to be expected that packaging food in smaller quantities will be more expensive. Yet, the extent of the cost difference in the above examples is clearly going to encourage the price-conscious consumer to buy more food than they need. According to the Chair of the FPWG, volume-based pricing strategies and pack sizing are difficult issues to tackle within the Courtauld Commitment, as the following comment illustrates:

> We've talked about promotions and pack sizes and things. There is a lot of discussion around those kinds of things. That's probably one thing that retailers will need to go away and have a look at really, are their formats. But then it's a big question because, if you start actually selling less volume to them, less product to them. Your profits go down then, your volume goes down. So that is a big question to cover.[42]

The above statement makes clear it is not in the economic interests of retailers or their suppliers to take measures that reduce the throughput of food to the consumer. Interestingly, retailers and food manufacturers can react quickly when it comes to increasing pack sizes. A large meat supplier explained how within weeks of the closure of hospitality due to Covid-19 retailers demanded increased portion sizes because there were more people at home, sitting round the table to eat.[43]

7.5. The Date Labelling Problem

Bearing in mind the impact of date labelling on food waste highlighted in Chapter 1, an important part of this research aimed to ascertain what progress has been made on the issues through Courtauld. This research has found that, even though WRAP and the FSA have been

[39] ibid.
[40] Karen Fisher and others, 'Retail Survey 2019: Helping Consumers Reduce Food Waste Through Better Labelling and Product Changes' (Waste and Resources Action Programme 2019) BCP003-002 23–24 <https://wrap.org.uk/sites/default/files/2020-08/Retail-Survey-2019.pdf> accessed 12 June 2021.
[41] ibid.
[42] Interview with Andy Mitchell, 'Interview 07: PP05 World Wide Fruit' (8 June 2020).
[43] Interview with Food Manufacturer, 'Interview 16: LFM03' (n 38).

working with industry for over a decade, and, since 2017, specifically through the Courtauld Commitment, progress on food labelling has been limited.

Unnecessary and overcautious date labels indirectly contribute to levels of consumer over-purchasing. Consumers often fail to eat the food they have purchased before the 'best before' date on the product and, as a consequence, discard perfectly edible food and re-purchase. Therefore, as with volume-based pricing, reducing the amount of food discarded in the household because of date labelling issues should, in theory, send a signal to retailers and food manufacturers to reduce levels of production. It is important to note here the relationship between the duration of date labels and the conditions in which food is stored. Overcautious 'best before' and 'use-by' dates are often blamed on a lack of consumer understanding around the ideal storage conditions for food.[44] As such, food producers should have a responsibility to communicate to consumers how best to store the food they purchase. While consumer food waste campaigns are actively trying to improve consumer understanding in this area, product labels themselves provide an obvious point of communication with the consumer. It is also important to point out that the connection between labelling issues and high levels of food waste has been recognised for many years. WRAP provided evidence that significant volumes of food were being discarded by consumers because of date labelling and inconsistent food storage messages as early as 2009.[45] As a result of these findings, updated labelling guidance was produced by WRAP and the FSA in 2010.[46]

Some progress has been made; confusing 'sell-by' dates have been removed, and, as will be illustrated below, some food producers have moved from 'use-by' to 'best before' dates and there have been incremental increases in the duration of date marks. Nevertheless, there are worrying inconsistencies across different retailers, both in terms of the type of date labels applied and the storage instructions provided to consumers. In terms of whether a product should have a 'use-by', 'best before' or no date label at all, retail concerns about consumer perception of how fresh their products are, appeared to be a major barrier to progress.

7.5.1. Determining the Type of Date Label

As set out in Chapter 1, in the relationship between food waste and date labels there are two main issues: the choice of label and its duration. The first part of this section sets out the legal framework that food producers must comply with in making choices about which date label to

[44] Interview with WRAP.
[45] Brook Lyndhurst ESA, 'Helping Consumers Reduce Food Waste – a Retail Survey.' (Waste and Resources Action Programme 2010) RBC820-001 32 <https://wrap.org.uk/sites/default/files/2020-12/Helping-consumers-reduce-food-waste-A-retail-survey-2009.pdf> accessed 18 August 2021.
[46] WRAP, 'Development of Best Practice on Food Date Labelling and Storage Advice' (Waste and Resources Action Programme 2017) 5 <https://wrap.org.uk/resources/guide/development-best-practice-food-date-labelling-and-storage-advice> accessed 6 October 2021.

apply. This is followed by an assessment of the progress made through the Courtauld Commitment by retailers and food producers to voluntarily implement food labelling guidance.

Decisions about what type of label to apply must be made within the legal framework set out by food law. The regulations around date labelling are derived from EU law and have been retained following the UK's exit from the EU.[47] Regulation 1169/2011 on Food Information for Consumers (FIC) legally requires all food products to display a date of minimum durability unless covered by the exemptions in Annex X.[48] This date gives consumers a minimum date at which the product should maintain its sensory product quality. However, the regulation requires that:

> In the case of foods which, from a microbiological point of view, are highly perishable and are therefore likely after a short period to constitute an immediate danger to human health, the date of minimum durability shall be replaced by the 'use by' date.[49]

A decision to apply a 'use-by' date has significant implications. After the 'use-by' date has expired, the food is deemed unsafe for consumption in accordance with EU general food law, and therefore cannot be marketed.[50] In addition, Article 14 of the Food Safety and Hygiene (England) Regulations 2013 make it a criminal offence to offer for sale or to redistribute food past its 'use-by' date.[51]

As indicated above, not all food products require a date label; Annex X of the FIC exempts certain products from legally requiring either a 'best before' or 'use-by' date. This derogation covers fresh fruit and vegetables, 'including potatoes, which have not been peeled, cut or similarly treated'. It also includes 'bakers' or pastry cooks' wares that, given the nature of their content, are normally consumed within 24 hours of their manufacture' and a number of other long-shelf-life items.[52] Legally speaking, this gives considerable scope to remove date marking

[47] The European Union (Withdrawal) Act 2018 converted existing EU law which applied directly in the UK's legal system (such as EU regulations and EU decisions) into UK law (as it applied immediately before IP completion day) and preserves laws made in the UK to implement EU obligations (e.g., the laws which implement EU Directive). This body of law is known as retained EU law.

[48] See Art. 9(1)(d) Regulation 1169/2011/EU of 25 October 2011 on the provision of food information to consumers [2011] OJ L304/18 2011.

[49] Art. 24(1) reg 1169/2011. Where a food producer deems a 'Use by' date is necessary, the time period over which the product will remain safe to consume must be determined by microbiological risk assessment as part of a Hazard Analysis and Critical Control Plan (HACCP) in accordance with EU regulation 852/2004, on the hygiene of food stuffs. Throughout the set duration of the 'Use-by date, the food product must comply with microbiological criteria set out in EU Regulation 2073/2005. Article 8 of Regulation 852/2004 makes provision for National Competent Authorities (NCA)'s to issue good practice guidance for food producers to enable them to meet both these regulations.

[50] Article 14(2) to (5) of Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (Retained EU legislation).

[51] See *R (on the application of Tesco Stores Ltd) v Birmingham Magistrates' Court [2020] EWHC 799.*

[52] See Art. 9(1)(d) and Annex X, Regulation 1169/2011.

from uncut fresh fruit and vegetables and some bakery products, albeit cut or peeled fruit and vegetables will still require a date mark.

In November 2017, WRAP, in conjunction with industry, the Food Standards Agency (FSA) and Devolved Governments updated industry guidance to simplify date labelling and provide clearer guidance on storage.[53] The guidance made it very clear to industry that 'use-by' dates should only be applied for food safety purposes and product life should be maximised to give people the longest possible time to use food.[54] WRAP was to work with Courtauld 2025 signatories to ensure implementation of the guidance.[55]

Discussions with retailers indicated that, although they were aware of the impact of date labelling on household food waste, changing labels was quite a challenge. Three years after the publication of the labelling guidance, one major retailer stated:

> So, you can imagine touching all the labelling on products is quite a big task, but what we're hoping to do is incorporate some of WRAP's guidance into that update. So again, that is something we have looked at, and it's really important, because if you look at the amount of waste that occurs in the home, that's kind of where the biggest impact is … guidance to customers is a big part of that. So, it is something we're taking seriously … and we're currently in the process of looking at rolling that out.[56]

While it is good retailers realise the impact of labelling on household food waste, as will be argued below, it is difficult to reconcile taking the issue seriously with the (lack of) speed at which they are addressing it voluntarily.

7.5.2. Removing Date Labels from Exempt Products: The Case of Fruit and Vegetables

Uncut fresh fruit and vegetables are exempt from the legal requirement to display a 'best before' date. However, with the exception of Lidl, to date, progress on the removal of labels has been disappointingly slow. Interviews with suppliers indicated that, for many retailers, 'best before' labels are deemed necessary for efficient inventory management and, perhaps more importantly, to maintain consumer perceptions about quality and freshness. WRAP's 2019 retail survey revealed that approximately 75 per cent of fresh produce still carried a 'best

[53] WRAP and DEFRA, *Labelling Guidance: Best Practice on Food Date Labelling and Storage Advice* (*WRAP, DEFRA,* November 2017).
[54] ibid, 11.
[55] WRAP (n 46) 20.
[56] Interview with Retailer (n 28).

before' date.[57] Tesco's did claim in October 2018 that they were removing 'best before' labels from 116 lines of produce to help reduce food waste.[58] Nevertheless, in April 2021, a survey of the local Tesco store's fresh produce section revealed just one prepacked product line without a date mark.[59]

Interviews with suppliers revealed that most thought that 'best before' dates on fresh produce caused unnecessary food waste, both for themselves and consumers. As one large grower stated, 'we would love to see those go, that would give us much greater flexibility'.[60] However, there is tension between reducing food waste and efficient stock management as retailers' date marks facilitate stock rotation. Growers agreed that poor stock rotation leads to increased complaints, and this is bad for both retailers and suppliers. Growers indicated that information on shelf-life can be supplied without alerting consumers: for example, by using Julian codes (that tell retailers when the product was packed, but not in a format consumers could easily understand), or QR codes.[61] As one food redistributor put it,

> There is no reason to educate the consumer on the life of that product. If they're just trying to keep their own quality standards up that's fine, but for Christ's sake you don't have to put the date on it and let Mrs Miggins take it home and go 'oh its dated today, I better put it in the bin'.[62]

However, on the flip side, as one large fruit supplier pointed out:

> [Retail employees] need to make quick decisions about what they can move. So, if you've got a small date code, and you're not quite sure what that date code means, you have to check it; it takes longer. But if you've got a 'best before' date, oh it's the 15th on there, tomorrow is the 16th, that means I've got one day left to sell it. That makes it easier for them to rotate stock on the shelves.[63]

It is clear from discussions with suppliers that some retailers have attempted to remove 'best before' labels on certain lines, but customer feedback appears to have constrained efforts, and, in some cases, retailers have backtracked. As one supplier put it,

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[57] Karen Fisher and others, 'Retail Survey 2019: Helping Consumers Reduce Food Waste Through Better Labelling And Product Changes' (Waste and Resources Action Programme 2019) BCP003-002.
[58] Rebecca Smithers, 'Tesco to scrap 'best before' dates from fruit and vegetable lines' The Guardian, London (8 October 2018) available at https://www.theguardian.com/environment/2018/oct/08/tesco-to-scrap-best-before-dates-from-fruit-and-vegetable-lines
[59] April 2021 survey of local retailers.
[60] Interview with Anonymous Primary Producer, 'Interview 11: PP07' (24 July 2020).
[61] Interview with Anonymous Primary Producer, 'Interview 01: PP01' (28 January 2020).
[62] Interview with Mark Game, 'Interview 08: RED01 The Bread-and-Butter Thing' (10 June 2020).
[63] Interview with Mitchell (n 42).

> It's interesting how retailers will keep going round the houses on this one. Customer complaints start to spike; you start to see issues with the [product] because it's not being rotated properly, or people aren't using their common sense at home. So, then they've backed right away from that and gone, oh that was all a bit of a mistake'.[64]

Removing 'best before' dates from exempt fresh fruit and vegetables could save perfectly edible food from being wasted for both suppliers and consumers. The fact that there is a debate around whether this would cause additional stock rotation costs for retailers indicates that waste is not their priority, and, further, that while the benefit of applying 'best before' labels rests with retailers, the risks and costs of food waste fall on suppliers and the consumer.

The ease of stock rotation and customer complaints are not the only factors inhibiting efforts to remove unnecessary 'best before' dates. Competitive positioning around consumer perception of quality and freshness is perhaps the key constraining factor. As the FPWG Chair pointed out, in regard to managing stock without 'best before' labels:

> There's lots of opportunities with that, to manage that side. But I think ultimately, a lot of the higher-end retailers want them on there because they show that that's them managing their quality and there not giving poor quality to the customer.[65]

Consumer perception of quality is not limited to the high-end supermarkets, as a large Tesco supplier explained:

> [Fresh] produce is a 'hero area' for Tesco, it's really key in terms of loyalty … it's a key determinant of where people normally choose to shop and has been historically. A lot of that is around how fresh is the product, so they do a number of quality perception studies through mystery shoppers and things like that, and part of the quality perception is how long a date code do I have.[66]

When it comes to selling fresh produce without 'best before' labels, the retailer that stood out was Lidl. A survey of the local store in April 2021 revealed that all uncut fresh produce in store had no visible date marking.[67] Interestingly, Lidl stated that they have never used 'best before' labels on fresh fruit and vegetables, 'From our side, the perspective has always been if it looks fresh you can buy it, so we're not going to tell you obviously, which is the freshest, just look

[64] Interview with Anonymous Primary Producer, 'Interview 33: PP09' (2 February 2021).
[65] Interview with Mitchell (n 42).
[66] Interview with Anonymous Primary Producer, 'Interview 31: PP08' (29 January 2021).
[67] April 2021 survey of Local retailers.

yourself and pick it up'.[68] In terms of consumer complaints, Lidl admitted:

> There's definitely more customer complaints around freshness and not having that transparency. But it's not something we're going to move on, because ultimately the customer can make their own decision in store as to what they're happy with freshness wise … it's not that we're having to actually develop a strategy around it, because it's never been a big issue for us in the first place.[69]

Lidl's policy clearly demonstrates that fresh produce can be managed and sold without a 'best before' date. The fact that WRAP's initial guidance supported their application on pre-packed fresh fruit and vegetables has no doubt hindered progress in this category. The 2017 guidance stated:

> WRAP recommends that based on currently available research it would be preferable for pre-packed uncut fresh produce to carry a 'best before' date – to help consumers manage the food they buy, whilst maintaining quality and freshness.[70]

It is not clear what WRAP meant by helping consumers manage the food they buy, but if managing quality and freshness means giving consumers an (often arbitrary) date to base decisions about throwing away food, the advice clearly contradicts the objective of reducing household food waste. It is also unclear how much influence industry had over this advice, but WRAPs 'Information Sheet' on the development of the guidance states:

> Discussions with stakeholders suggests that most people prefer to have dates on pack to tell them when to consume the product rather than a product carrying no date at all. For this reason, it's important that we continue to improve people's understanding of what 'Use-by' and 'best before' mean.[71]

A sceptical view is that the industry's preference was to continue business as usual and leave it to WRAP to educate consumers that fresh fruit and vegetables are fine to eat after the expiration of the 'best before' date. Interviews with industry indicated that there was a common belief that WRAP had the ability to make a much bigger impact on consumer habits through consumer campaigns than they could by changing label information.[72] However, following a review of evidence, in 2019, WRAP updated this guidance to say:

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[68] Interview with Lidl (n 24).
[69] ibid.
[70] WRAP, FSA and Defra, 'Labelling Guidance: Best Practice on Food Date and Storage Advice' (Waste Action Resources Programme, November 2017) 17.
[71] WRAP (n 46) 12.
[72] Interview with Mitchell (n 42).; Interview with Retailer (n 28).

> WRAP now recommends using a 'Best Before' date only on pre-packed (uncut) fresh produce where this is judged to be necessary/useful in order to help consumers eat – rather than waste – the product, linked to perishability/variability … For all other cases, no date is recommended.[73]

However, for most retailers' efficient stock rotation, customer complaints and the perception that produce without a date mark might not be fresh continue to be barriers to progress. In terms of customer acceptance, if all retailers were to remove 'best before' labels on fresh produce there would be less risk of consumers shopping elsewhere. This means retailers working collaboratively for the collective good of reducing household food waste. This is exactly what WRAP and retailers claim to be doing through the Courtauld Commitment. Nevertheless, progress on removing unnecessary 'best before' labels illustrates an industry failure to collaborate.

7.5.3. Best Before or Use-By?

Research has shown that applying a 'use-by' date instead of 'best before' leads to higher amounts of food waste, because 'use-by' dates are associated with food safety concerns.[74] Similarly, the application of unnecessary 'best before' dates, although not safety related, still influences consumer decisions about whether they should eat the food they have or throw it away.[75] Responsibility for the format of date labels rests with food producers, but retailers have significant influence over the type of label their suppliers provide.[76] Moving from 'use-by' to 'best before' dates has the potential to reduce household food waste, provided that consumers understand the difference. Some progress has been made here, but, as will be illustrated below, the lack of a coordinated approach has led to inconsistencies across different retailers and products. This has implications in terms of educating consumers about the difference between the two labels.

Food safety is extremely important, and no food should be labelled 'best before' where there is a serious threat to human health. However, unnecessary application of 'use-by' dates not only causes food waste but also sends signals to consumers that 'use-by' dates need not be taken seriously. The industry guidance makes it very clear that 'use-by' dates should only be used when there is a food safety reason for doing so,[77] and further that 'concerns about customer perceptions of product freshness or quality and others unrelated to food safety

[73] WRAP, FSA and Defra (n 70) 17.
[74] Norbert LW Wilson and others, 'Food Waste: The Role of Date Labels, Package Size, and Product Category' (2017) 55 Food Quality and Preference 35, 42.
[75] Luiza Toma, Montserrat Costa Font and Bethan Thompson, 'Impact of Consumers' Understanding of Date Labelling on Food Waste Behaviour' (2020) 20 Operational Research 543, 555.
[76] ICF and others, 'Market Study on Date Marking and Other Information Provided on Food Labels and Food Waste Prevention' (European Commission 2018) 62.
[77] WRAP, FSA and Defra (n 70) 17.

should not govern the choice of date label'.[78] Therefore, where consumption of food after the date of minimum durability does not constitute an immediate threat to human health a 'best before' date should be applied.[79]

As pointed out above, the unnecessary application of 'use-by' dates has significant implications for food waste. It is illegal to sell or redistribute food that has passed its 'use-by' date. In terms of consumer food safety, the FSA's website puts out a stark warning:

> After the use-by date, don't eat, cook or freeze your food. Don't trust the sniff test. Food can look and smell fine even after its use-by date, but that doesn't mean it's safe to eat. It could still be contaminated. You cannot see, smell or taste the bacteria that cause food poisoning.[80]

In switching from 'use-by' to best before', according to WRAP, some good progress has been made; for example, many manufacturers of hard cheeses and pasteurised fruit juices moved quite quickly from applying 'use-by' to 'best before' dates.[81] However, the problem of inconsistencies is highlighted by progress in the dairy sector. WRAP's product-specific guidance for both yogurts and milk encourage producers to consider applying 'best before' labels.[82] Two years after the publication of the initial industry guidance, WRAP's 2019 retail survey found that only 16 per cent of yogurt items now carried a 'best before' label. 'Notably, one leading brand and one retailer were found to carry a 'best before' label on all yogurt items; and another manufacturer planned to switch to 'best before' labels across their whole range'.[83]

In milk production, Arla has led the way, being the first major dairy brand to change from 'use-by' to 'best before' in 2020.[84] Nevertheless, other leading brands and many supermarket own-brand milk products have not yet followed.[85] Interviews with dairy producers revealed that there is some debate as to which date label actually leads to the greatest reduction in food waste.[86] As one milk producer stated:

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[78] ibid.
[79] ibid.
[80] See FSA website, 'Best before and use-by dates: Understanding 'best before' and 'use-by' dates on food labels and how you must treat them differently' at https://www.food.gov.uk/safety-hygiene/best-before-and-use-by-dates
[81] Interview with Parry (n 26).
[82] See WRAP, 'Yogurt Guidance: Helping reduce consumer food waste, through changes to products, packs, labels and retail' (WRAP, FSA, Defra and Dairy UK April 2018) and WRAP, 'Milk Guidance: Helping reduce consumer food waste, through changes to products, packs, labels and retail' (WRAP, FSA, Defra and diary UK April 2018).
[83] Fisher and others (n 57) 6.
[84] Interview with Parry (n 26).
[85] Interview with Anonymous Food Manufacturer, 'Interview 34: LFM09' (5 March 2021).
[86] Interview with Anonymous Food Manufacturer, 'Interview 17: LFM04' (30 October 2020).; Interview with Food Manufacturer, 'Interview 34: LFM09' (n 85).

> If you put a best before date on, people throw it away on the 'Best Before' date. But if you put a 'Use-by' date on you get the extra day or two days, that is the use over Best Before day; there is a big debate between which one you should use.[87]

The problem with this approach is that the decision about what label to apply is being influenced not by microbiological evidence but by whether they think consumers understand the difference between the labels, or, even if they do, will be willing to drink milk once the 'best before' date is passed.

The fact that some milk producers have moved from 'use-by' to 'best before' dates while others have not sends confusing signals to the consumer. In many retail stores it is entirely possible to pick up two bottles of milk (or yogurt) from competing brands, one with a 'best before' and another with a 'use-by' date. Further, in January 2021, Arla, along with other leading food brands, 'joined forces to roll out new on-pack messaging to persuade shoppers to be guided by their own senses' when evaluating whether food is good to eat.[88] The move coincided with a national 'Look, Smell, Taste, Don't Waste" campaign led by the food waste reduction app 'Too Good to Go' and also backed by WRAP and Defra.[89] The campaign encourages consumers to use their own sensory judgement rather than 'best before' dates to determine whether food is good to eat, 'given that many foods which have exceeded their 'best before' date are still safe to consume weeks and even months later'.[90] While this is a positive development for food waste, bearing in mind the FSA's advice to consumers on food past its 'use-by' date, the fact that some retailers and manufacturers have made the switch to 'best before', while others have not, sends confusing signals to the already confused consumer.

On pasteurised milk, WRAP is working to try and improve consistency across the retail market. WRAP stated that discussions were ongoing with those yet to make the shift and they were confident that 'it is only a matter of time now before all pasteurised milk in the UK will carry a 'Best Before' date.[91] However, one reason for inconsistencies in the dairy sector is that factories may use different processes and/or ingredients in their production. As a result, some products may present a higher degree of microbiological risk. As WRAP points out:

> It is the responsibility of food producers, ultimately if a particular factory is using a high-risk ingredient in a flavoured cheese or flavoured milk, only they know whether or not

[87] Interview with Food Manufacturer, 'Interview 17: LFM04' (n 86).
[88] Smithers (n 23).
[89] ibid.
[90] ibid.
[91] Interview with Parry (n 26).

> the product should carry a ‘Use-by’ or a ‘Best Before’, government probably feels it's gone as far as it can.[92]

Yet, the question remains, if some manufacturers can produce products that are microbiologically safe to eat at the expiration of the ‘best before’ date, why are others using processes or ingredients that mean their products constitute an ‘immediate threat to human health?’ This perhaps indicates a reluctance to share information on ingredients and processes and illustrates the limitations of industry collaboration. Nevertheless, for unflavoured pasteurised milk the difference in the choice of date label seems difficult to justify. Clearly, in this instance, collaboration between retailers and food manufacturers has not been sufficiently achieved through the Courtauld Commitment to provide a consistent approach to date labelling. WRAP’s retail survey shows that, in general, unnecessary and inconsistent application of ‘use-by’ date labels remains a problematic area.[93]

7.5.2. Calculating the Duration of Date Labels.

In terms of food waste caused by date labels, perhaps the most problematic issue relates to the overly cautious approach used by food producers to calculate the duration of ‘use-by’ and ‘best before’ labels. This research has found that, in order to prevent reputational damage, food producers often calculate the duration of date labels based on worst-case scenarios, including both supply chain management issues and, subsequently, how consumers handle and store food. This approach shortens the potential duration of date labels significantly and creates a barrier to reducing household food waste. Although the law is not as clear in this area, there are questions of responsibility here, and it is argued below that this over-cautious approach misinterprets the requirements of food safety law.

As highlighted in Chapter 1, extending the duration of date labels could save substantial amounts of food from being wasted; evidence from WRAP has suggested that ‘even small increases in shelf life could result in significant reductions at the household level’.[94] Interviews with food producers indicate that some progress has been made, but again, this has been constrained by food safety concerns and perceived threats of reputational damage. As stated above, the industry guidance makes it clear that product life should be maximised to give people the longest possible time to use food.[95] Interviews across all sectors revealed that food producers have been working with the support of retailers to extend the duration of date labels.

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[92] ibid.
[93] Fisher and others (n 57).
[94] WRAP (2015) Reducing food waste by extending product life. WRAP. http://www.wrap.org.uk/content/reducing-food-waste-extending-product-life.
[95] ibid, 11.

Most interviewees described circumstances where they had been able to increase shelf-life on certain products, usually by a day or two. In some categories, for example pre-packed sandwiches, a day's extension is probably all that can be expected.[96] Nevertheless, in other categories interviewees claimed that there was potential to make much larger gains.[97]

The first part of this section argues that progress on extending the duration of date labels has been constrained by the way that the risk of food being mishandled is allocated. In the second part of this section, it is argued that a fairer allocation of risk can be achieved provided retailers and food manufacturers take responsibility for communicating the ideal storage conditions to consumers on the product label.

7.5.3. Reputation and the Allocation of Responsibility for Quality and Safety

The FIC regulation is silent as to how the duration of date labels should be calculated. However, where a food producer deems a 'use by' date necessary, the time period over which the product will remain safe to consume must be determined by a microbiological risk assessment.[98] Throughout the set duration, the product must comply with certain microbiological criteria set out in other retained EU Regulations.[99] The problem is, following the scientific assessment of the safe longevity of food products in ideal temperature conditions, a somewhat arbitrary buffer is often applied to allow for 'abuse'. This abuse might be encountered in the supply chain getting the product to the point of sale or suffered due to poor handling and storage by consumers.[100] As the FDF's labelling guidance points out, it is advisable to think of this buffer as a 'safety zone designed to protect both the consumer and the manufacturer or seller of the food'.[101]

Interviews with suppliers and WRAP revealed that, although some progress has been made in terms of increasing the duration of date labels, the extent to which this buffer zone is applied is inhibiting progress. In the fresh produce sector, producers indicated that the duration of date

[96] Interview with Norman Watson, 'Interview 09: LFM01 Greencore Group Plc' (11 June 2020).; Interview with Parry (n 26).; Interview with Anonymous Food Manufacturer, 'Interview 19: LFM05' (9 November 2020).
[97] Interview with Anonymous Food Manufacturer, 'Interview 12: LFM02' (10 September 2020).;Interview with Food Manufacturer, 'Interview 17: LFM04' (n 86).
[98] REGULATION (EC) No 852/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the hygiene of foodstuffs.
[99] COMMISSION REGULATION (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs. Article 3 of Regulation (EC) No 2073/2005 indicates that Food Business Operators (FBO) shall ensure that foodstuffs comply with the relevant microbiological criteria and limits set out in the Regulation. Furthermore, Article 3 refers to the shelf-life studies (listed in Annex II of the Regulation), that the FBO shall conduct in order to investigate compliance with the criteria throughout the shelf-life.

[100] FDF, 'Industry Guidance on Setting Shelf-Life' (Food and Drink Federation, November 2017) 5 <https://www.fdf.org.uk/globalassets/resources/publications/guidance/shelf-life-guidance.pdf> accessed 20 June 2021.
[101] ibid.

labels was often being extended when time of year and weather conditions mean product quality is at its best. As a supplier explained, the duration might be increased by a day or two mid-season and then reduced again at the shoulders of the season.[102] This does give consumers extra time to eat the produce they have purchased and is a welcome development. However, despite this improvement, when questioned as to whether overall the duration set might be overly cautious, some primary producers thought caution was justified because of consumer behaviour:

> You know, everybody has different ways and facilities at home, or they leave [the groceries] in the back of the car for five hours while they're at work. So, we are overcautious, but that's because retailers are, quite rightly, so obsessed with customer complaints. You know they're very careful how they handle this situation, because negative press sells newspapers, good press doesn't sell anything. So that's why they have to play it safe.[103]

In the dairy sector, one producer described how the duration of their 'use-by' date had already been extended by four days but could potentially be extended by at least another five days, possibly even weeks. Nevertheless, retailers were reluctant to allow such a step change.[104] Instead, extensions could only be revalidated one day at a time. This was due to concerns about the reliability of the cool chain and inconsistent in-store temperatures. These factors could lead to product deterioration and cause customer complaints and reputational damage.[105] In addition to supply chain reliability, WRAP stated that the reason for industry reluctance to push boundaries is consumer fridge temperature:

> [Food producers] do all their testing at five degrees centigrade, and we and others published research showing that the average fridge temperature is 7 degrees in the UK. There are a number of people whose fridges are at 12 degrees … I think every degree, you can lose three days of shelf life. So, it's a vicious circle … Industry feels like, we've got to take a worst-case scenario. So, if you've got a fridge with the right temperature your product lasts longer, but it's your neighbour that's causing the problem, because his fridge is set at 11 degrees.[106]

This is the crux of the problem when it comes to setting the duration of both date labels. There is a difficult balance to be struck between taking a worst-case scenario approach and one that bases the duration on ideal conditions during manufacture, distribution, retail and consumer

[102] Interview with Primary Producer, 'Interview 31: PP08' (n 66).
[103] Interview with Guy Poskitt, 'Interview 06: PP04' (18 May 2020).
[104] Interview with Food Manufacturer, 'Interview 17: LFM04' (n 86).
[105] ibid.
[106] Interview with Parry (n 26).

storage.[107] The worst-case scenario approach leads to excessively short shelf-life under ideal conditions. However, if all the reasonably foreseeable circumstances in the supply chain and consumer storage and handling are not taken into account, there is a risk that the calculated duration will be too long. This could mean quality is compromised or, in the case of 'use-by' dates, the product is unsafe to consume.[108] It is clear from discussions with industry and WRAP that many retailers and food producers favour the worst-case scenario approach. However, this approach pushes both the risk and responsibility for food waste on to consumers.

Consumers are clearly not responsible for the cool-chain, and it is arguable that date marks should not be set in a manner that allows excessive deviation from the conditions required to get safe, quality food to consumers. If cool-chain errors mean the normal conditions are breached, this food should not be offered for sale. It could be argued this will just move food waste back up the supply chain. However, if food producers and retailers carry the risk and financial implications, they are far more likely to ensure that food reaches the consumer under optimal conditions. Similarly, retailers should not be held responsible for a minority of consumers who fail to handle and store food correctly provided that retailers have ensured that storage conditions are properly communicated to consumers on the label. In terms of food safety, reliance on the worst-case scenario approach means that, for the majority of consumers, the duration of date marks are far too conservative. This creates a dangerous situation, bearing in mind public campaigns that now encourage consumers to use their senses to determine whether food is good to eat. Consumers may be lulled into a false sense of security that eating food past its 'use-by' date is safe and thereby expose themselves to potentially fatal food-borne diseases, such as botulism and listeria, that cannot be seen, smelt or tasted.[109]

7.5.4. The Importance of Storage Advice

It is clear from the discussions with WRAP and supply chain actors that how consumers handle and store their food is constraining efforts to extend the duration of date labels. Despite the fact that consumer-facing food waste prevention campaigns have been ongoing for more than a decade, research by WRAP indicates that there are still some notable gaps in consumer knowledge around how best to store food; for example, 'half of citizens surveyed incorrectly

[107] European Commission, 'COMMISSION STAFF WORKING DOCUMENT GUIDANCE DOCUMENT on Listeria Monocytogenes Shelf-Life Studies for Ready-to-Eat Foods, under Regulation (EC) No 2073/2005 of 15 November 2005 on Microbiological Criteria for Foodstuffs' (European Commission, 2013) 20 <https://ec.europa.eu/food/system/files/2016-10/biosafety_fh_mc_guidance_document_lysteria.pdf> accessed 12 June 2021.
[108] ibid.
[109] See FSA website, 'Best before and use-by dates: Understanding 'best before' and 'use-by' dates on food labels and how you must treat them differently' available at https://www.food.gov.uk/safety-hygiene/best-before-and-use-by-dates

believe that apples last for longest if they are stored at room temperature out of the original packaging, as opposed to the fridge or in the original packaging'.[110] Perhaps more worryingly, 52 per cent of people 'incorrectly think the fridge should be set between 4-7 degrees (as opposed to below 5)'.[111] As argued above, increasing the duration of date labels requires consumers to take responsibility for how they handle and store food. However, to facilitate this retailers and food producers should have a legal responsibility to communicate to consumers the ideal storage conditions for the products they produce. Nevertheless, in terms of storage advice, WRAP's evidence shows that there are inconsistencies between retailers in terms of what type of advice is offered and for which products.[112] WRAP's 2019 retail survey found that, although almost all products sampled had storage advice on the pack, only 15 per cent of applicable products carried the 'blue fridge logo' advising consumers to refrigerate that product at less than five degrees Celsius.[113] The inconsistencies in storage advice between retailers and products, not to mention the lack of urgency with which these issues are being addressed, is clearly problematic. Voluntary implementation of the labelling guidance through Courtauld has proved to be ineffective. In terms of storage advice on products, it is arguable that legislative intervention would have been more effective. Further, in relation to food safety, recent case law indicates that storage information provided to consumers on labels may play an important role in determining legal liability.

Evidence of the fact that 'use-by' dates are applied unnecessarily or are overly cautious was recently provided in the case of *R (on the application of Tesco Stores Ltd) v Birmingham Magistrates' Court*.[114] Tesco was prosecuted in the Birmingham Magistrates' Court for displaying items for sale with an expired 'use-by' date. 'The prosecution rested on the premise that, by virtue of the last sentence of article 24 of the Food Information Regulation, food beyond its use-by date is "unsafe" food'.[115] Somewhat paradoxically, Tesco claimed no offence had been committed because, despite the food being labelled with a 'use-by' date, none of it was, in fact, unsafe at the expiration of that date.[116] Tesco provided expert microbiological evidence to the effect that none of the foods seized were 'highly perishable'; none would cause any immediate danger to human health after a short period beyond the use-by date, and none was unsafe from a microbiological point of view in that, if the

[110] Mark Roberts and Phil Downing, 'Food Waste Trends Survey 2019: Citizen Behaviours, Attitudes and Awareness around Food Waste' (Waste and Resources Action Programme 2020) CIT022-001 5.
[111] ibid.
[112] Fisher and others (n 40).
[113] Fisher and others (n 57).
[114] See *R (on the application of Tesco Stores Ltd) v Birmingham Magistrates' Court* [2020] EWHC 799.
[115] Ibid at Para. 30.
[116] Ibid at Para. 32.

cooking/heating instructions were followed, that would have rendered the product safe to eat.[117]

On judicial review of the Magistrates' decision, the case centred around whether Article 24 of the FIC creates an irrebuttable presumption that food past its 'use-by' date is unsafe for the purpose of criminal proceedings.[118] On this point, the High Court found that food placed on the market with an expired 'use-by' date is unsafe for the purposes of Article 14 of the Food Safety Regulation and that this cannot be rebutted by evidence.[119] It is clear that Tesco had failed to apply the correct date label, or, failing that, had been too conservative in its duration. Interestingly, in setting out the legal framework, the Court seemed to point towards a less cautious approach to setting the duration of 'use-by' dates, stating that 'article 14(3) [of the General Food law] sets out various factors to be taken into account in determining whether any food is unsafe, regard shall be had:

> (a) to the normal conditions of use of food by the consumer and at each stage of production, processing and distribution; and
>
> (b) to the information provided to the consumer, including information on the label, or other information generally available to the consumer concerning the avoidance of specific adverse health effects from a particular food or categories of food.[120]

This lends support to the argument that, in terms of food safety, the duration of 'use-by' dates should be determined under normal conditions and including the storage information given on the label, rather than worst-case scenarios. However, as stated in Chapter 1, the food industry has many incentives for using overcautious date labels. Premature disposal of products protects the food industry from food safety liability and reputational harm and also increases throughput and profitability.[121] Therefore, as Kesslor points out, 'changing industry behaviour requires either industry wide agreement or government intervention'.[122] The former seems to be lacking for implementation of food labelling guidance through the Courtauld Commitment and, as WRAP stated above, the government appears to feel it has gone as far as it can.

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[117] Ibid.
[118] Ibid para. 39.
[119] Ibid at para. 58. Note article 14 refers to Article 14 of EU Reg 178/2002 The General food law.
[120] Ibid at para 11.
[121] Zsuzsa Gille, 'From Risk to Waste: Global Food Waste Regimes' (2012) 60 The Sociological Review 27.; Stuart (n 32).; Carrie Bradshaw, 'Waste Law and the Value of Food' (2018) 30 Journal of Environmental Law 311.
[122] Nolan Kessler, 'Chapter 787: Reducing Food Waste with Fresh Food Date Labelling Terminology Review of Selected 2017 California Legislation: Business and Professions' (2017) 49 University of the Pacific Law Review 355, 366.

7.6. Conclusion

Households are reported to be responsible for 70 per cent of all post-farm gate food waste. Nevertheless, it has been shown that retail risk avoidance strategies play a significant role in causing consumers to waste food. Some commentators have claimed that retailers now recognise that they share some of the responsibility for household food waste and that there are reputational and economic justifications for helping consumers to reduce their waste.[123] Volume-based pricing and unnecessary and over-cautious date labelling are two primary examples of mechanisms that cause food to be wasted in the household. According to WRAP, households are where the most effort and resources have been focused 'and where Courtauld 2025 partners are helping to deliver change'.[124] A renewed strategy for citizen food waste prevention has been developed with Courtauld 2025 signatories that delivers 'best practice guidance on how food is sold, packs are designed and products are labelled, to help citizens waste less of their purchases'.[125]

However, despite purported notions of distributed responsibility for household food waste, this research has found that retailers and food producers have been slow to take action voluntarily, particularly in relation to the mechanisms that drive consumers to over-purchase food. In regard to volume-based pricing, it appears that some token gestures have been made while, on the whole, business as usual continues. The problems around date labelling illustrate a failure of Courtauld signatories to collaborate. The disappointing lack of progress in removing unnecessary 'best before' dates on fruit and vegetables illustrates a reluctance within Courtauld to agree on a strategy and move together to tackle a shared industry problem. In this case, competitive positioning around consumer perceptions of quality and choice are shown to be a barrier to progress. The lack of progress in moving from 'use-by' to 'best before' dates where appropriate also demonstrates a failure to collaborate that has led to worrying inconsistencies between retailers and similar products that may inhibit efforts to educate consumers about the meaning of these different labels. In terms of extending the duration of date labels, retailers and food producers clearly favour calculating the longevity of food products using a worst-case scenario approach that pushes both the risk and responsibility for food waste onto consumers.

[123] Swaffield, Evans and Welch (n 16).; Welch, Swaffield and Evans (n 14).
[124] WRAP (n 1) 13.
[125] ibid 14.

Chapter 8 – Collaboration, Competition, Trust and Transparency

8.1. Introduction

One of the key themes highlighted in the previous chapters is that a high level of industry collaboration is required, both horizontally (across supply chains) and vertically (within supply chains), if the problem of overproduction is to be addressed. The stated objective of the Courtauld Commitment is to work collaboratively with industry and other stakeholders to prevent food waste that arises as a result of the production and consumption of food.[1] However, in this chapter it is argued that the fundamental premise of the voluntary approach, that industry will collaborate to find win–win solutions to shared problems, is inherently limited. To demonstrate the limitations of the voluntary approach we return to the supply chain to provide context to support the argument made above. As will be illustrated below, competition between retailers for both the financial and reputational benefits of food waste prevention has created a lack of trust, both between retailers and between retailers and their suppliers. This lack of trust creates problems of transparency that limit the potential for collaborative solutions.

Chapter 2 underlined that the design of voluntary commitments plays a key role in strengthening incentives for both participation and implementation and is therefore crucial for overall effectiveness. However, as will be argued below, the effectiveness of the Courtauld Commitment is further constrained by structural factors that stem in part from problems of design; these factors, in turn, may limit the legitimacy of proposed solutions and cooperation at the implementation stage. As will be illustrated below, the introduction of the IGD Roadmap attempts to overcome some of the structural limitations of the Courtauld Commitment by increasing participation and transparency. Nevertheless, the extent to which the Roadmap achieves this is questionable. As will be shown, one of the most difficult challenges for the Roadmap (and the voluntary approach in general), is that voluntary action to reduce systemic causes of food waste require a sufficiently robust business case to support it.

The chapter proceeds as follows: Section 2 identifies two key factors that inhibit the ability of Courtauld to formulate collaborative prevention solutions, lack of supply chain representation and transparency. Section 3 discusses how the IGD Roadmap has been developed and

[1] REFRESH, 'WRAP Launches the Courtauld Commitment 2025!' <https://eu-refresh.org/wrap-launches-courtauld-commitment-2025> accessed 23 August 2018.; WRAP, 'Courtauld Commitment 3: Delivering Action on Waste' (Waste and Resources Action Programme 2017).

embedded within Courtauld to attempt to overcome the structural limitations of the Commitment and improve the overall effectiveness of the voluntary approach.

8.2. Courtauld Commitment: Factors Constraining Effective Supply Chain Collaboration

This research has found that, within Courtauld, opportunities for collaborative food waste solutions are inhibited by both a lack of supply chain representation and an absence of transparency in the reporting requirements. These factors in turn limit the legitimacy of proposed solutions, and therefore the effectiveness of the Courtauld Commitment as a whole. The first part of this section argues that structural problems in the design of the Commitment potentially undermine the legitimacy of proposed solutions and inhibit collaboration within the supply chain. This is followed by a discussion of some factors that the research has found are creating barriers to participation, particularly by large food manufacturers.

In terms of collaborative solutions to food waste problems in their supply chains, retailers were quick to state their enthusiasm for seeking win–win food waste solutions. As one retailer stated:

> We're looking at all of our value chains now, it's something that we're trying to join up the dots on a lot more … how can we work collaboratively with our suppliers to build [surplus] into different products across our whole portfolio and across our whole range.[2]

Despite some successes, the retailers interviewed admitted that there was a lot more that could be done. As one retailer explained,

> There's a massive coordination piece to be done with that and different suppliers have different expertise on different products … it's a bit of a spider's web, but I still think there is some low hanging fruit to be had there. But it's a big investment, [we need] the right tools to do the job and the right conversations with the right relationships.[3]

The statement above illustrates two key factors required for successful collaboration. First, a prerequisite for win–win solutions is knowledge of the fact that surplus or waste exists in the production of a product – levels of surplus or waste must be visible. Second, innovative solutions are more likely to occur if all the actors in the supply chain responsible for getting

[2] Interview with Anonymous Retailer, 'Interview 26: RET02' (13 January 2021).
[3] ibid.

the product to the final consumer are involved; collaborative solutions require both horizontal (across the retail market) and vertical supply chain coverage.[4]

In terms of visibility, the lack of knowledge around how much surplus and waste is created in primary production is clearly problematic. However, according to food redistribution organisations, there is also a great deal of food surplus and waste created in food manufacturing, much of which is preventable.[5] The fact that Courtauld signatories report their food waste in confidence to WRAP clearly inhibits visibility and is one factor contributing to an overall lack of transparency in the Commitment. There is much more to be said on this, and I will return to the problem of transparency in more detail below, but equally problematic in terms of collaborative solutions is Courtauld's lack of supply chain representation.

Supply Chain Representation

Courtauld's signatories include all the major UK retailers, accounting for over 95 per cent of the grocery market.[6] However, while signatories may well cover 95 per cent of the grocery market in a horizontal sense (the place of retail purchases of food), the participants are not representative of the supply chain in a vertical sense. Despite pressure from the government, many of the UK's largest food manufacturers are not signatories, and there are only a handful of primary producers.[7] The sectors in the supply chain where food waste is most problematic, primary production and food manufacturing, are underrepresented. Despite publicly encouraging food businesses of all sizes to join the Commitment, when questioned about participation, WRAP stated that:

> Courtauld's always been (a select group, perhaps, gives the wrong impression), but the way that WRAP works is, we'd rather have a group of 50 or 60, leading businesses to work with very closely, than having 600 signed up to an agreement, which means you don't actually have that much opportunity to talk to them one to one, to really understand what their issues are. So Courtauld has always been about the leading-edge businesses, giving them a forum to discuss specific issues, barriers, helping them innovate and drive progress.[8]

[4] Bradley C Karkkainen, 'Managing Transboundary Aquatic Ecosystems: Lessons from the Great Lakes' (2006) 19 Global Business & Development Law Journal 209, 228–229.
[5] Interviews with RED01, RED03 and RED04.
[6] WRAP, *Annual Review 2016/17* (*WRAP*, 2017) 13. http://www.wrap.org.uk/content/annual-review-2016-17 accessed 24 August 2018.
[7] Ian Quinn, 'Major Suppliers Pulled over Failure to Back Courtauld 2025' *The Grocer* (London, 19 October 2017).; Also see EFRA, 'Food Waste in England: Eight Report of Session 2016-17' (House of Commons Environment, Food and Rural Affairs Committee 2017) HC 429 10. In terms of primary production a number of reasonably large primary producers had never heard of the Courtauld Commitment or the IGD Roadmap.
[8] Interview with Andrew Parry, 'Interview 28-29: WRAP' (21 January 2021).

The regulation literature recognises that, to maximize efficiency, 'regulators with often limited budgets target participants who can deliver the greatest gains'.[9] However, given the diversity of businesses, products and processes involved in the production of food, it is questionable to what extent some of these leading-edge businesses share the same problems and causes of food waste. As one Courtauld working group participant pointed out, Courtauld does not have sufficient representation where most food surplus and waste actually occurs, namely in manufacturing and primary production, and 'that's a slightly odd position to be in. So structurally, I think Courtauld undermines itself'.[10] On the same point, one working group member complained,

> They don't have logistics companies in there, which I feel is a mistake and everything's post-farm gate as well. Which again, you know, if we're going to look at food, let's look at food pre-farm gate. They say, oh its quite hard that one, well no its not, actually. I think it would be quite healthy to have some growers, as well as some packing houses, as well as some logistics providers all in the same room, because we've all got the same problems.[11]

The fact that the Commitment lacks participation from supply chain actors in the vertical sense limits the opportunity for meaningful collaboration. Regulation scholars have highlighted the importance of pooling information from diverse and interdisciplinary sources to create a richer understanding of the nature of problems and the consequences of proposed solutions.[12] In terms of seeking collaborative solutions to common problems and creating and implementing industry best practice, broad participation facilitates an open, collaborative process, which in turn enhances the legitimacy of the proposed solutions. This leads to higher levels of 'buy-in' among participants and lays the foundations for cooperation at the implementation stage.[13]
A potential consequence of Courtauld's lack of vertical representation is that the scope and legitimacy of potential solutions are constrained, along with the level of 'buy-in' to proposed solutions. Notwithstanding WRAP's preference for limiting Courtauld membership, it begs the question of why some of the UK's largest food manufacturers have been reluctant to sign up.

[9] Kathleen Segerson, 'Voluntary Approaches to Environmental Protection and Resource Management' (2013) 5 Annual Review of Resource Economics 161, 167.
[10] The interviewee did not want this comment to be attributed to them or the business.
[11] Interview with Mark Game, 'Interview 08: RED01 The Bread-and-Butter Thing' (10 June 2020).
[12] Bradley C Karkkainen, 'Managing Transboundary Aquatic Ecosystems: Lessons from the Great Lakes' (2006) 19 Global Business & Development Law Journal 209, 228–229.
[13] ibid.

Courtauld Commitment: Barriers to Participation

As was pointed out in Chapter 2, an important design feature of any voluntary commitment is sufficiently strong incentives for signatories based on both the benefits of participation as well as the costs of the associated obligations.[14] Interviews with larger food manufacturers indicated that Courtauld 2025's fee structure, and the growing number of environmentally focused voluntary agreements that food producers are encouraged to sign up to, are now creating barriers to participation.

The larger food manufacturers interviewed who were not Courtauld signatories were sceptical about the balance of costs and benefits.[15] Previous iterations of the Courtauld Commitment were free to join, but with the launch of Courtauld 2025 a turnover-based fee structure was introduced, which meant large businesses were asked to pay significant sums to sign up. As one working group member stated, 'If you look across Courtauld's membership, when they moved to a fee-based structure they lost a lot of membership'.[16] In addition, WRAP administers a number of sustainability related voluntary agreements that it encourages the same food businesses to join. For food and drink producers, as well as Courtauld, which aims to tackle food waste, water usage and carbon emissions, WRAP also administers the Plastic Pact that aims to reduce the environmental impact of plastic packaging. Further, in 2020, WRAP has launched another voluntary commitment aimed at reducing the carbon impact of the meat industry.[17] The growing cost of voluntary commitments is, for some potential signatories, raising questions around value for money. As one large food manufacturer put it:

> We're getting asked to join Courtauld and the plastics one as well … that means 25,000 pounds each. Essentially, I have a choice between joining those or paying for a member of staff. Actually, I'd rather have somebody in there doing some work, then sign up to a couple of things.[18]

On top of the cost of joining, the time involved for sustainability managers also appeared to be an issue, and there was a sense that a kind of 'voluntary initiative fatigue' has crept in. As one sustainability professional stated:

> It's not just food waste, that's the thing. So, you've got a food waste one, you've got a carbon one, you've got a soy one, we've got a water one. So, all these things that come

[14] Segerson (n 9) 175.
[15] Interview with Anonymous Food Manufacturer, 'Interview 17: LFM04' (30 October 2020).; Interview with Anonymous Food Manufacturer, 'Interview 19: LFM05' (9 November 2020).
[16] This interview subject did not want this comment attributed to them.
[17] Ian Palmer, 'Meat in a Net Zero World – UK to Cut Meat Waste and Emissions' *Waste Resources Action Program (WRAP)* (Banbury, 30 June 2020) <https://wrap.org.uk/media-centre/press-releases/meat-net-zero-world-uk-cut-meat-waste-and-emissions> accessed 21 July 2021.
[18] Interview with Food Manufacturer, 'Interview 17: LFM04' (n 15).

> in everywhere. Plastics and packaging another one … actually, I could make a career out of just joining these things and going to them but achieving nothing.[19]

When questioned on whether the fee structure was a barrier to participation, WRAP acknowledged that, even for very profitable businesses, 'actually trying to justify a few thousand pounds on a CSR budget can be quite difficult'.[20] Nevertheless, WRAP was rather sceptical about the impact on participation of the Commitment's fee structure. WRAP attributed the failure of some large food manufacturers to join to other factors, including the fact that some multinational food producers did not have a head office in the UK and were already signed up to meet other global food waste prevention targets.[21]

Funding is clearly a problem, and the difficulty for WRAP is that, without the fee structure, there is very little support from central government on which to base their work on Courtauld.[22] As one interviewee pointed out, whether or not the fee structure is inhibiting participation becomes somewhat of a circular debate.[23] The difficulty with seeking funding from government is that preventing food waste pays off for industry. This is certainly the case when it comes to increasing efficiency at the individual business level.[24] In fact, WRAP claims that for every pound spent on food waste prevention the average return a business might expect is £14.[25] This makes public funding difficult to justify — why should Defra fund efforts to prevent food waste when reducing it is clearly in the interests of businesses? According to one interviewee, the message coming from government is that food waste is an industry problem, and as such it should be funded by business.[26]

However, this misses the point that systemic overproduction and the food waste it causes are a symptom of the wider political economy.[27] As such, either a change in the regulatory approach is required or public funding is necessary to facilitate industry collaboration where the benefits of food waste prevention are not necessarily captured by individual businesses. Funding is an important factor and has a bearing on the effectiveness of voluntary agreements. I will return to the issue of funding below. The fact that Courtauld lacks both supply chain representation and transparency did not escape the attention of Champions 12.3 Chair Dave

[19] ibid.
[20] Interview with Parry (n 8).
[21] ibid.
[22] Interview with Alan Hayes, 'Interview 32: IGD' (29 January 2021).
[23] ibid.
[24] Craig Hansen and Peter Mitchell, 'The Business Case for Reducing Food Loss And Waste: A Report on Behalf of Champions 12.3' (WRAP 2017).
[25] ibid 13.
[26] Interview with Hayes (n 22).
[27] Tim Lang, 'Food Waste Is the Symptom, Not the Problem' (*The Conversation*) <http://theconversation.com/food-waste-is-the-symptom-not-the-problem-15432> accessed 19 July 2018.

Lewis. As such, efforts have been made to improve the effectiveness of the voluntary approach to food waste prevention with the creation of the IDG Roadmap.

8.3. The IGD Roadmap: Increasing Participation and Transparency

The introduction of the IGD Roadmap has successfully increased participation, particularly amongst Tesco suppliers, a number of which now publicly report their food waste performance. This demonstrates the surrogate regulatory role that retailers might play in the food waste prevention space. However, this research has found that competition between retailers is potentially constraining the effectiveness of the Commitment. As will be argued below, competition between retailers for both the financial and reputational benefits of food waste prevention has created a lack of trust, both between retailers and between retailers and their suppliers. In addition, it is argued the Roadmap's increased participation has come at the expense of transparency. This problem may be countered to some extent should mandatory food waste reporting be introduced. However, as will be illustrated below, mandatory reporting alone does not provide sufficient transparency to facilitate supply chain collaborations to tackle the systemic causes of food waste.

The section begins by offering an explanation as to why the Roadmap was introduced and briefly explains its relationship with the Courtauld Commitment. The section then highlights the challenge faced by the Commitment in terms of balancing participation and effective implementation of food waste prevention measures. The section then explains the connection between transparency, trust and competition. The chapter concludes by evaluating how competition and transparency impact on the Roadmap's primary mechanism for implementing food waste prevention measures across entire retail supply chains.

8.3.1. The Relationship between Courtauld and the IGD Roadmap

As outlined in Chapter 2, the IGD Roadmap was launched in September 2018, just two years after the start of Courtauld 2025. Bearing in mind WRAP's purported success in the Courtauld model, the introduction of yet another voluntary initiative aimed at preventing food waste is somewhat perplexing. However, interviews with stakeholders revealed that the IGD Roadmap was born out of a frustration by Tesco's former CEO and Champions 12.3 Chair Dave Lewis that not enough was being achieved by the Courtauld Commitment in the food waste

prevention space.[28] Two primary objectives of the Roadmap are to improve the transparency of food waste reporting and increase levels of participation. However, before moving on to discuss the Roadmap's potential impact, it is important to understand the intended relationship between the two initiatives.

In 2017, Mike Lewis, in his capacity as Champions 12.3 Chair, put out a call to action on food waste at the IGD Policy Issues Council (PIC), a forum of industry leaders that debates the strategic challenges facing the consumer goods industry.[29] At the PIC, Lewis made it clear to industry that, although the UK holds itself up as a world leader in food waste prevention, actually, there is a lot more businesses could and should be doing. Lewis stressed that more businesses needed to take a consistent approach to measurement and implementing targets and actions to prevent food waste.[30] As a result, the PIC challenged IGD to look at what it could do in the space and, in particular, how food waste measurement could be standardised.[31]

To address the challenge, IGD worked in conjunction with WRAP, whose technical waste expertise complimented IGD's breadth of convening authority and industry knowledge.[32] The result of this collaboration was the development of the Roadmap and its overarching principle of Target-Measure-Act (TMA), the global strategy behind achieving SDG 12.3. According to both WRAP and IGD, the Roadmap was to be embedded in the Courtauld Commitment. As WRAP explained, Courtauld provides a pre-competitive space where WRAP can work with a smaller number of influential businesses, and particularly the retailers, to share information and help drive research projects to gain insight as to what needs to be done.[33] Therefore, Courtauld and its working groups are still the forum where industry best practice is formulated and priorities set. The Roadmap then extends Courtauld's reach by getting more businesses signed up to measure their food waste, set targets and implement industry best practice. However, it does this without diluting Courtauld's membership to the point where it becomes unmanageable and ineffective.[34] Yet it is hard to see how the legitimacy of industry best practice is enhanced when it is still being formulated by a select group. As one manufacturer stated, 'it's the same information, we aren't getting a lot different out of IGD, that comes out of Courtauld, it's taking the same information and spreading it out everywhere. So actually, we

[28] Interview subject wanted to remain anonymous.
[29] Interview with Hayes (n 22) For further details on the purpose of the PIC and its membership see IGD website at https://www.igd.com/about-us/industry-working-groups.
[30] Interview with Parry (n 8).
[31] Interview with Hayes (n 22).
[32] ibid.
[33] Interview with Parry (n 8).
[34] ibid.

get a bit jaded with it.'[35]

The Challenge of Effective Participation

In Chapter 2 it was pointed out that effective voluntary agreements face two competing challenges, attracting enough participants to make a real impact on the problem and making sure the participants live up to the Commitment's standards.[36] This challenge of effective participation can be seen playing out within the Roadmap's membership. It is argued that, while the participation of food manufacturers and primary producers has increased significantly, achieving this has meant relaxing the reporting obligations, at least in the short term.

The 2020 Roadmap Progress Report shows that, since its launch in 2018, the number of food businesses signed up has increased from just over 70 to 213.[37] Of the 213 signatories, 162 are food manufacturers or primary producers, and 'collectively these businesses represent around 50% of the entire sector by turnover, and cover all of the major categories of food'.[38] This increased participation can be attributed to a number of factors. First, the Roadmap, with the resources it provides signatories, is free to join. This obviously negates the problems highlighted above with Courtauld's fee structure. Second, Dave Lewis's call to action as Tesco CEO put pressure on Tesco suppliers to both sign up and publicly report their food waste.[39] In fact, a number of interviewees attributed their participation and public reporting of food waste directly to pressure from Tesco.[40] Finally, interviews also revealed that, in an effort to get more organisations on the food waste journey, some businesses were allowed to commit to the Roadmap without adhering to the reporting obligations from the outset.[41]

In terms of reporting, the Roadmap makes it clear that industry best practice is to publicly report food surplus and waste.[42] WRAP's evidence suggests that businesses that have publicly reported their food waste data year-on-year are making significant reductions.[43] Yet,

[35] Interview with Food Manufacturer, 'Interview 17: LFM04' (n 15).
[36] Jonathan C Borck and Cary Coglianese, 'Voluntary Environmental Programs: Assessing Their Effectiveness' (2009) 34 Annual Review of Environment and Resources 305, 309.
[37] IGD WRAP, 'The Food Waste Reduction Roadmap Progress Report 2020' (Waste and Resources Action Programme 2020) BCP001-GEN 6 <https://wrap.org.uk/sites/default/files/2020-10/Food-Waste-Reduction-Roadmap-Progress-Report-2020.pdf>.
[38] ibid 19.
[39] Interview with Parry (n 8).
[40] Interview with Anonymous Primary Producer, 'Interview 11: PP07' (24 July 2020).; Interview with Anonymous Food Manufacturer, 'Interview 12: LFM02' (10 September 2020).; Interview with Anonymous Food Manufacturer, 'Interview 21: LFM06' (26 November 2020).; Interview with Fuller Foods, 'Interview 30: LFM08 Fuller Foods' (28 January 2021).
[41] This interviewee did not want this comment attributed to them.
[42] WRAP, 'The Food Waste Reduction Roadmap Progress Report 2020' (n 37) 6.
[43] ibid.

while 80 per cent of signatories have provided some evidence of implementing TMA, only around 60 of these businesses had publicly reported their food waste figures.[44] It is not clear exactly what counts as evidence of implementation, but of 'those businesses that haven't yet publicly reported their food surplus and waste data, they are sharing this information with WRAP and/or their trade body'.[45] If public reporting drives effective food waste reduction, the fact that only 60 out of 162 food manufacturers and primary producers are publicly reporting is clearly problematic.

However, interviews with key stakeholders suggest that mandatory food waste reporting is expected to be introduced following the Government's imminent consultation.[46] Clearly, this would be a positive development for food waste prevention. Nevertheless, mandatory food waste reporting is not a silver bullet. As one interview subject stated, 'WRAP would say it's a game changer, I'm not quite so sure it's a game changer, but it certainly will have an impact; it will do more good than harm'.[47] As the evidence suggests, public reporting can drive food waste prevention. It might well drive efficiency improvements at the individual business level and increase surplus food redistribution. Nevertheless, it is argued that public reporting does not provide sufficient transparency to tackle systemic causes of food waste that require vertical supply chain collaboration. Food producers report in aggregate on levels of waste in their operations, many of which are complex and involve the supply of multiple products to multiple retailers.[48] Therefore, there is still a need for retailers and suppliers to talk to one another about what products and processes are generating high levels of waste.

The Relationship between Transparency, Trust and Competition

As Borck and Coglianese have pointed out, participation in voluntary commitments provides the opportunity for collaboration between supply chain actors to redesign business processes or products; this may well reduce production or operating costs, creating win–win solutions.[49] Nevertheless, collaborative solutions do not evolve without some form of investment in time, technology or product development. Whether a solution is, in fact, a win–win depends on who puts in the investment and how the benefits of the solution are shared. This research has found that vertical supply chain collaboration is constrained by a lack of trust between food producers and retailers around how the financial benefits of food waste prevention are

[44] ibid 19.
[45] ibid.
[46] At the time of writing the consultation is expected to be released by Defra by the end of 2021.
[47] Interview with Hayes (n 22).
[48] See, for example, case studies provided by WRAP available at https://wrap.org.uk/resources/food-waste-reduction-roadmap-case-studies
[49] Jonathan C Borck and Cary Coglianese, 'Voluntary Environmental Programs: Assessing Their Effectiveness' (2009) 34 Annual Review of Environment and Resources 305, 313.

allocated. This is a symptom of competition between retailers to provide ever-lower prices to the consumer.

As stated above, the retailers interviewed claimed that they were trying to work with their suppliers to find win–win food waste solutions. However, as one retailer explained, 'when we ask suppliers about food waste, the answer we get is, it's not a problem'.[50] Another stated, 'we know some of our suppliers have issues with food waste, but they just won't talk to us about it'.[51] Transparency is clearly a problem in supply chain engagement; as one redistributor put it, the problem with manufacturing food waste is 'it's invisible, it's factored into the cost of production'.[52] Interviews with food manufacturers revealed that many were reluctant to share specific information on how much waste is factored into individual products. This was because it alerted retailers to the fact that there was potential for price reductions.[53] As one interviewee explained, when retailers become aware of high volumes of waste:

> First of all, the retailers are like oh well you must do something about that and secondly the commercial teams within the retailers go, hey if you've got all that waste, you build that into your process and we need to get rid of that, because that's your waste not my waste. So, I want another one or two pence off per unit for that.[54]

The problem of retailers seeking price reductions where waste is reduced clearly inhibits collaborative solutions, but manufacturers indicated that this strategy is also employed where improvements have been made at the individual business level. As one food manufacturer stated, 'anything that you do for savings, if you share that information with retailers, there is a fear that they'll take some of it'.[55] Another stated, 'we don't tell them … because the minute the retailer finds out, he'll be after it'.[56] In addition, interviews with large food manufacturers indicate that the same tensions exist between food manufacturers and primary producers.[57] In some sectors, the food manufacturers interviewed had very little awareness of the levels of waste experienced by their suppliers.[58]

There is a clear clash here between sustainability commitments and commercial objectives. Some retailers have recognised this problem, and both M&S's 'Plan A' and ASDA's 'Golden Rule' include commitments that the retailer will not go after any savings made through shared

[50] Interview with Retailer (n 2).
[51] Interview with Lidl, 'Interview 27: RET05 Lidl' (21 January 2021).
[52] Interview with Game (n 11).
[53] Interview with Anonymous Food Manufacturer, 'Interview 16: LFM03' (15 October 2020).
[54] Interview with Game (n 11).
[55] Interview with Food Manufacturer, 'Interview 17: LFM04' (n 15).
[56] Interview with Food Manufacturer, 'Interview 16: LFM03' (n 53).
[57] ibid.
[58] Interview with Food Manufacturer, 'Interview 12: LFM02' (n 40).

learning.[59] However, in practice, at least from the food manufacturers' perspective, these commitments seemed to have had little traction. As one manufacturer complained, 'It didn't quite translate that way between their Plan A team and their commercial team. The commercial team said, well, you're making more money now, we want a little bit of that back, you can make us more competitive'.[60] Manufacturers indicated that this was a long-standing problem with retail responsible-sourcing teams, 'They make promises, but then when you put that into the commercial discussion, they don't want to know about it'.[61] Another manufacturer said, 'they won't pin it to a specific project or piece of work, but inevitably when the commercial guys step into the room, we're gonna get put under pressure to drive our pricing down'.[62] Manufacturers indicated that (with the exception of Tesco) this conflict between the retail sustainability and commercial functions was common across all retailers and most problematic with retailers who were under pressure financially.[63] This resonates with Black's depiction of corporations as complex organisations with multiple objectives and multiple sub-units with multiple selves.[64] This clash of corporate objectives indicates that, for many retailers, there is a clear lack of integration of food waste reduction objectives throughout the corporation. This inhibits the trust required to facilitate collaborative action.

The problem of fair allocation of the burdens and benefits of food waste prevention points to one of the limitations of the voluntary approach, the need to confine regulatory discussion to pre-competitive issues. The lack of trust between retailers and suppliers around seeking price reductions was acknowledged by WRAP, who stated that 'it was certainly a potential risk that was flagged when we were developing the Roadmap'.[65] However, WRAP's ability to intervene in these types of issues was constrained by the need to limit discussions within the Commitment to pre-competitive issues; as WRAP put it:

> [We] have to be very careful in that kind of discussion, because we have this agreement, this sort of legal standing, … we can't really get into discussions about pricing … we would like to see an equitable share of any benefits … but you know, there are other mechanisms.[66]

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[59] Interview with Anonymous Food Manufacturer, 'Interview 24: LFM07' (4 December 2020).
[60] Interview with Food Manufacturer, 'Interview 17: LFM04' (n 15).
[61] ibid.
[62] Interview with Food Manufacturer, 'Interview 24: LFM07' (n 59).
[63] Interview with Food Manufacturer, 'Interview 19: LFM05' (n 15).
[64] Julia Black, 'Decentring Regulation: Understanding the Role of Regulation and Self-Regulation in a "Post-Regulatory" World' (2001) 54 Current Legal Problems 103, 124.; Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (Oxford University Press 1992) 31.; Also see Bridget M Hutter, *Regulation And Risk: Occupational Health and Safety on the Railways* (Oxford University Press 2001) 315.
[65] Interview with Parry (n 8).
[66] ibid.

WRAP indicated that there might be a role here for the Grocery Code Adjudicator.[67] The problem with this idea is that, as it stands, the underlying purpose of the GSCOP is to maintain a competitive environment so that consumers are not subject to higher prices.[68]

The extent to which retailers do actually come after food waste efficiency savings is unclear, but the lack of trust expressed by interviewees is clearly problematic. One Courtauld Working Group member said, 'I think a large proportion of it is perception, but perception is reality'.[69] Further, this perception is reinforced by the fact that the unfair distribution of benefits is not limited to financial gains. One manufacturer explained how Tesco had staked a claim on the reputational benefit of food waste reductions made by the company. Tesco claimed publicly that it had got this multinational food producer started on the food waste journey through the IDG Roadmap. In fact, the company is a world leader and has been trialling and implementing food waste reduction measures for more than 10 years. The manufacturer was concerned that this sort of behaviour enhances the lack of trust between retailers and suppliers, because 'they've taken credit for what we've done, at some point they'll be coming after the money as well'.[70] And 'if they're prepared to do that with the big guys, you can imagine the concerns for the small guys'.[71]

This also highlights another emerging issue; competition has crept into the so-called pre-competitive space. One working group member (who wished to remain anonymous) was of the opinion that competitive positioning around certain food waste initiatives was now inhibiting the potential for food waste prevention to move forward at pace. For example, Tesco has, to some extent, staked a claim over the Roadmap by publicising how it has got its key suppliers signed up and publicly reporting on their food waste.[72] Tesco's leadership in the food waste prevention space is commendable, and in terms of Roadmap participation, as WRAP stated, Tesco has 'got a lot more people on board and that has set up the framework'.[73] But as WRAP has also stated, one of the benefits of Courtauld and the Roadmap are that they operate in a pre-competitive space. 'So, it's set up so that we can get all the retailers in the room, they can share information. And it's a bit of a cliche, but it genuinely is a sort of trusting environment,

[67] ibid.
[68] The Groceries (Supply Chain Practices) Market Investigation Order 2009 3.
[69] The interview subject did not want this comment attributed to them.
[70] Interview with Food Manufacturer, 'Interview 24: LFM07' (n 59).
[71] ibid.
[72] See, for example, Rebecca Smithers, 'UK Grocers Pledge to Halve Food Waste from "Farm to Fork" by 2030' *The Guardian* (London, 25 September 2018) <https://www.theguardian.com/environment/2018/sep/25/uk-grocers-pledge-halve-food-waste-supermarkets> accessed 10 August 2021.;
[73] Interview with Parry (n 8).

safe environment for them to share information'.[74] However, Tesco's efforts to leverage reputational benefit out of getting businesses involved in the Roadmap has turned food waste prevention into a competitive issue.[75] Discussions with key stakeholders indicate that other retailers have been reluctant to follow Tesco's lead and urge suppliers to join the Roadmap and publicly report for fear of being seen as 'just doing the same thing as Tesco'.[76] As such, turning the recruitment of suppliers to the Roadmap itself into a competitive issue is a clear failure in terms of horizontal collaboration among retailers at the Courtauld level. This failure to agree a common strategy creates difficulties for food waste prevention efforts as a whole, as IGD explained:

> When it comes to collectively addressing the biggest issues, no one business is big enough, even Tesco. Even though we've got 260-odd organisations engaged and supporting the Roadmap in various ways, there are still many, many hundreds of businesses, big, small and in between who aren't engaged in the Roadmap.[77]

This shows there are limitations to what can be achieved in the pre-competitive space. As IGD admitted, the lack of trust between retailers, and between retailers and food producers, is no surprise:

> Businesses can share a bit of knowledge and insight and expertise amongst each other and then among wider industry, but in a highly competitive industry, in a market-driven economy and in an industry especially where there is so much power invested in four major retailers, it would be foolhardy of us to expect it to be otherwise.[78]

Therefore, what this research shows is that competition between retailers for both the reputation and financial benefits of food waste prevention is creating barriers to progress.

Whole Chain Food Waste Reduction Plans: A Surrogate Regulatory Role for Retailers?

The fact that the lack of transparency and trust as well as increasing competition is slowing collaborative progress towards tackling the systemic causes of food waste has implications for the Roadmap's primary mechanism for cascading food waste reduction measures through

[74] ibid.
[75] Interview subject wished to remain anonymous.
[76] Interview subject wished to remain anonymous. But also see Jessica Sinclair Taylor and others, 'When There's No Waste, There's a Way (to Net Zero): A Call for Policy for Food Waste Prevention' (Feedback 2020) 12.
[77] Interview with Hayes (n 22).
[78] ibid.

the supply chain and getting SME food producers committed to reducing their food waste; whole-chain food waste reduction (FWR) plans.

To date, there has been very little progress implementing whole-chain FWR plans. The theory behind whole-chain FWR plans is that retailers will connect with their key food manufacturing suppliers, who, in turn, would connect with their ingredient suppliers, and so FWR plans will cascade through the supply chain.[79] This requires retailers to take ownership and initiate the first stage. However, discussions with one manufacturer revealed there appeared to be very little enthusiasm shown by retailers in terms of instigating whole-chain FWR plans unless there was an *ex-ante* business case to justify engagement,[80] and further that the complexity of retail supply chains impacts on the transparency of measurement and reporting data, which may limit the type of proposed solutions.

As WRAP acknowledged, 'we know we can't achieve the national and global food waste targets unless we get action by all large food businesses and hopefully small businesses as well'.[81] Nevertheless, getting small and medium-sized food producers committed to food waste prevention is a significant regulatory challenge.[82] The regulation literature recognises that supply chain pressure offers a valuable means of influencing the environmental behaviour of SME's.[83] The purchasing power of retailers means they have significant leverage that may be used to influence the environmental performance of suppliers.[84] At least in theory, this suggests that there is potential for retailers (and large food manufacturers) to play a powerful surrogate regulatory role in the prevention of food surplus and waste in their supply chains. This top-down approach is a key feature of the Roadmap, which requires retailers to work together with their suppliers to put in place whole-chain FWR plans'.[85]

Progress on whole-chain FWR plans has been limited. The September 2020 Roadmap progress report celebrated the initiation of the first whole-chain FWR mapping project by Sainsburys, Fuller Foods and Lamb Western.[86] Almost a year later, the Courtauld Commitment 2021 Annual Report revealed that this remains the only whole-chain FWR plan

[79] ibid.
[80] ibid.
[81] Interview with Parry (n 8).
[82] Neil Gunningham and Darren Sinclair, *Leaders and Laggards: Next-Generation Environmental Regulation* (Greenleaf Publishing 2002) 13.; Neil Gunningham, Martin Phillipson and Peter Grabosky, 'Harnessing Third Parties as Surrogate Regulators: Achieving Environmental Outcomes by Alternative Means' (1999) 8 Business Strategy and the Environment 211.
[83] Gunningham and Sinclair (n 82) 25.
[84] Gunningham, Phillipson and Grabosky (n 82) 215.
[85] WRAP IGD, 'Food Waste Reduction Roadmap Toolkit' (Waste and Resources Action Programme 2018) 7.
[86] WRAP, 'The Food Waste Reduction Roadmap Progress Report 2020' (n 37) 7.

in place.[87] As such, meeting the Roadmap target of 50-plus whole-chain FWR plans by 2022 looks extremely challenging.[88] No doubt progress here has been impacted by the Covid-19 pandemic. Nevertheless, discussions with Fuller Foods revealed there is limited appetite from retailers to engage with suppliers on such collaborative projects.[89]

The Roadmap and toolkit encourages retailers and large food manufacturers to take a strategic approach to engagement by prioritising larger suppliers and key products where reducing food waste will have the greatest impact.[90] This is clearly intended to be a top-down approach. However, the collaboration between Sainsburys, Fuller Foods and Lamb Western was not driven from the top down, but instead by Fuller Foods and Lamb Western, who were keen to demonstrate their commitment to reducing food waste to their retail customers.[91] The project was also supported by WRAP, who provided field experts to help get this first whole-chain FWR plan off the ground.[92] But, despite supplying most of the supermarkets, Fuller Foods found it difficult to recruit retailers to the project. After approaching all of their retail customers, only Sainsburys and Co-op agreed to take part.[93] Fuller Foods indicated that they are motivated to engage with more retailers on similar projects, but were somewhat dismayed by the attitude of retailers:

> We were in one meeting last week where we did talk about the whole chain food mapping project that we've done with another retailer. And they've asked me to map out the length of time it is taken to do that, in order for them to understand whether that's something that they've got the time to dedicate to … it's not that they don't want to do it, they want to know if there is enough reward for the amount of time they would have to invest in the project. That just feels like they're coming at it from the wrong angle.[94]

The above statement makes it clear that, from the retailer's perspective, as Welsh and others have pointed out, the civic duty to do the right thing is constrained by the need for a business case to support it.[95] There is a clear tension here between the top-down approach advocated

[87] WRAP, 'The Courtauld Commitment Annual Report: Shaping a Sustainable Recovery' (Waste and Resources Action Programme 2021) VFU001-003 11 <https://wrap.org.uk/sites/default/files/2021-07/WRAP-Courtauld-Commitment-Annual-Report-2021.pdf> accessed 8 June 2021.
[88] IGD (n 85).
[89] Interview with Fuller Foods (n 40).
[90] WRAP, 'The Food Waste Reduction Roadmap Progress Report 2020' (n 37) 17.
[91] Interview with Fuller Foods (n 40).
[92] Interview with Hayes (n 22).
[93] Interview with Fuller Foods (n 40).
[94] ibid.
[95] Daniel Welch, Joanne Swaffield and David Evans, 'Who's Responsible for Food Waste? Consumers, Retailers and the Food Waste Discourse Coalition in the United Kingdom' [2018] Journal of Consumer Culture 1.

by the Roadmap and the reality that the highest volumes of food waste exist further up the supply chain, notwithstanding that the cause of that waste might be located within the retailer's sphere of control.

In addition to problems of trust, this research has also found that the potential solutions that flow from whole-chain FWR plans might fail to address root causes of surplus and waste because the complexity of supply chains limits the transparency of food waste measurement and reporting. As was pointed out in Chapter 4, many primary producers supply multiple retailers; the same is true for manufacturers. However, in many cases, measurement was not detailed enough to break down levels of food surplus and waste to individual retailers.[96] While Tesco's suppliers are publicly reporting their waste figures, those numbers include that generated by all their retail customers. WRAP indicated that from the outset Tesco believed it was unfeasible for their suppliers to separate out food waste by customer. Further, it believed that there was little point in doing so, because 'it doesn't matter if they're supplying other businesses, we still want them to be doing the right thing'.[97] There is some strength to this argument; however, it depends on what doing the right thing actually means, and who doing the right thing refers to. If doing the right thing means suppliers simply redistributing surplus product that retail customers fail to take, it matters not (at least to the retailers) why the surplus or waste was created in the first place.

The lack of transparency in the reporting data creates a number of problems in identifying and tackling the root causes of surplus and waste and opens the door for freeriding. First, if a particular retailer is causing surplus or waste due to over-zealous cosmetic specifications or failing to take forecast volumes, this is not attributed to the retailer causing it. Second, it obscures important feedback loops: for example, if a particular retailer invests in new forecasting technology or decides to loosen their cosmetic standards, it is more difficult to properly evaluate the impact of these measures. Finally, labelling the food producers that are currently publicly reporting as Tesco suppliers gives the perception that reducing their waste is Tesco's responsibility. One retailer interviewed indicated they were happy to wait and learn from Tesco's experience before taking measures themselves because Tesco's has a far larger budget for food waste prevention than they did.[98] These factors combined may well narrow the scope of potential solutions and lead to an overemphasis on surplus redistribution rather than tackling root causes such as overproduction.

[96] Primary producers and manufacturers only measured total waste; the exception was where a manufacturer had an entire production facility dedicated to one retailer.
[97] Interview with Parry (n 8).
[98] Interview with Benjamin Thomas, 'Interview 14: RET03 Waitrose' (14 October 2020).

8.4. Conclusion

In this chapter it has been argued that the fundamental premise of the voluntary approach, that industry will collaborate to find win–win solutions to shared problems, is inherently limited. Competition between retailers for both the financial and reputational benefits of food waste prevention has created a lack of trust, both between retailers and between retailers and their suppliers. This lack of trust around the equitable sharing of the benefits and risks of addressing systemic overproduction in the supply chain has become a significant barrier to progress.

The effectiveness of Courtauld is further constrained by structural problems related to the design of the Commitment. Courtauld's lack of supply chain representation and transparency are factors that have inhibited its effectiveness. To some extent these deficiencies are being addressed through the introduction of the IGD Roadmap. Nevertheless, as this chapter has shown, in terms of effective participation and transparency, there are still some significant hurdles to overcome. Not least that retail participation in the Roadmap's primary mechanism for reducing food waste in the supply chain, whole-chain FWR plans, appears to be contingent on a sufficiently robust *ex-ante* business case for participation.

WRAP has claimed that one of the benefits of Courtauld and the Roadmap is that they operate in a pre-competitive space, a trusting environment where the industry can collaborate on shared problems. However, it is questionable what value that pre-competitive space really offers when one of the underlying problems is competition itself. As such, operating in a pre-competitive space is unlikely to challenge the structural causes of food waste and the power relationships that deflect the risks and costs of food waste caused by overproduction on to weaker actors in the supply chain; this is a fundamental limitation of the voluntary approach.

Chapter 9 – Conclusion, Implications and Looking Ahead

9.1. Research Aims and Contribution

The aim of this research was to identify barriers to the effectiveness of the two main regulatory regimes with the potential to reduce food waste caused by overproduction. The overarching question this thesis has addressed is: What are the challenges for the regulation of food waste caused by the overproduction of food in England?

The grey or policy literature claims that the voluntary Courtauld Commitment/IGD Roadmap are effective methods for reducing food waste[1] and that the GCA is an exemplary modern regulator with an international reputation.[2] In relation to the former, the purported advantages of the voluntary approach are well summarised in the statement below from WRAP Global and Refresh:

> By working together to achieve collective goals, organisations from across the food and drink sector can learn from each other, collaborate, and deliver change in the most efficient, effective way. Voluntary agreements can: be set up without the need for new legislation; be implemented quickly and easily adapted to changing circumstances; and provide a safe, pre-competitive space for companies to work together. By uniting, voluntary agreement members can cut food waste far more rapidly, cost-effectively and at greater scale than by working alone.[3]

Furthermore, in the context of the Courtauld Commitment, Piras and others have argued that

> All private actors are thus able to put aside competition and commercial interest and collectively develop a clear strategic framework and targets. This allows the food sector to collectively send clear signals to both suppliers and consumers concerning its priorities and objectives, thus facilitating and encouraging waste reduction across the supply chain.[4]

However, to date, there had been very little academic scrutiny of the effectiveness of either of these regimes. This research has begun to address this important gap in the literature. In relation to both of these regulatory regimes, the findings of this research present quite a

[1] WRAP Global and REFRESH, 'Building Partnerships, Driving Change: A Voluntary Approach to Cutting Food Waste' (WRAP Global and REFRESH 2019) 2341824.; Simone Piras and others, 'Unfair Trading Practice Regulation and Voluntary Agreements Targeting Food Waste: A Policy Assessment in Select EU Member States' (REFRESH 2018) D3.2.
[2] BEIS, 'Statutory Review of the Groceries Code Adjudicator: 2013 - 2016: Presented to Parliament Pursuant to Section 15(7) of the Groceries Code Adjudicator Act 2013' (Department for Business, Energy & Industrial Strategy 2017) 2.
[3] WRAP Global and REFRESH (n 1) 4.
[4] Piras and others (n 1) 49.

different narrative to that offered by the grey literature. The research suggests that rather than being put aside, competition and commercial interests are at the heart of the problem when it comes to implementing collaborative solutions to tackle the problem of overproduction, both in the supply chain and at household level.

The remainder of this chapter is structured as follows. The chapter begins by briefly setting out the main findings from the fieldwork undertaken in this research. These findings and their implications for food waste prevention and policy are then discussed in more detail in Section 3. Bearing in mind the limitations of this research, the final section looks ahead and highlights areas where further research is needed.

9.2. Summary of Findings

9.2.1. Inequitable Sharing of the Benefits Versus the Risks of Overproduction

The fieldwork data suggests that while the two regimes have quite different regulatory objectives, there is a common theme that links them: retail power and central position in the supply chain as gatekeepers to consumer create problems with regard to equitable sharing of the economic benefits of overproduction in comparison to the risks and costs of the food waste it creates. The findings in Chapter 4 illustrate that despite regulatory efforts by the GCA, the risks and costs of overproduction (and the surplus and food waste it causes) continue to fall predominantly on suppliers. Similarly, as highlighted in Part II of this thesis, regarding voluntary efforts to reduce the impact of overproduction through the Courtauld Commitment, inequitable sharing of benefits and risks have either constrained the effectiveness of collaborative efforts or are a barrier to their implementation. Underlying the equitable distribution of the benefits and risks of food waste prevention are issues of competition.

9.2.2. Competition and Trust

While competition is an established cause of food waste in the literature, what this research suggests is that competition is also a significant barrier to regulatory efforts to prevent food waste. This thesis has argued that tackling systemic overproduction (or strong prevention) requires high levels of industry collaboration, both vertically (within supply chains) and horizontally (across supply chains). However, the fieldwork data indicates that competition is a significant challenge to the implementation of collaborative food waste prevention solutions. This research has found that competition between retailers constrains collaborative efforts in two important ways. First, as shown in Chapter 7, competitive positioning among retailers

around consumer perceptions of quality, freshness and the reputational benefits of food waste prevention create barriers to collaboration in the horizontal sense. Second, as demonstrated in Chapter 8, supplier perceptions of how the benefits and risks of preventative measures are to be apportioned has led to a lack of trust between retailers and their suppliers, which inhibits both transparency and vertical collaboration.

9.2.3. Problems of Design

The research findings indicate that the extent to which competition is allowed to constrain the effectiveness of the Courtauld Commitment and IGD Roadmap is due in part to problems relating to their design. As illustrated in Chapter 5, the commitment's monitoring and targets focus companies' attention on food waste prevention at the individual business level rather than on the collaborative action that is required to tackle food waste caused by the overproduction of food. As shown in Chapter 8, this research found that there is a lack of participatory incentives for some supply chain actors to join the commitment and for those that do, the design of the commitment does not sufficiently incentivise action to prevent food waste that arises outside of their own operations.

9.3. Findings and Implications

9.3.1. Inequitable Sharing of Benefits and Risks

Considering the tangential nature of food waste to the GCA's main regulatory objective, it might be unfair to judge the GCA's regulatory effectiveness in relation to questions surrounding food waste. The GCA's primary regulatory objective is 'to promote a stronger, more innovative and more efficient groceries market through compliance with the Code and as a result, to bring better value and choice to consumers'.[5] As illustrated in Chapter 4, all of the suppliers that were interviewed thought the GCA had made a significant impact in terms of kerbing many unfair trading practices deployed by retailers before the GCA's establishment. However, as Piras and others have pointed out, levels of food waste within supply chains are a strong indicator of the success of interventions aimed at tackling unfair trading practices.[6] The sample of supply chain actors who took part in this research revealed that when it comes to preventing retailers from deflecting the risk involved in balancing product availability with consumer demand, the GCA's impact has been limited. This research suggests that the GCA's ability to prevent the unfair trading practices that cause overproduction and food waste have

[5] GCA, 'Annual Report and Accounts 1 April 2020 – 31 March 2021: Improving Fairness for Suppliers' (Groceries Code Adjudicator) (HC 256) 24 June 2021 18.
[6] Piras and others (n 1) 69.

been hindered by ambiguity in the Code's forecasting provision coupled with constraints in the task environment.

As demonstrated in Chapter 4, the Code provision on compensation for forecasting error is ambiguous. The Code does not define what type of business relationship requires a retailer to provide a supplier with a forecast, what information the forecast must contain, or at what point in the production cycle the forecast must be provided. Definitions matter. As also pointed out in Chapter 4, the GCA is in the unusual position of having to interpret the meaning of the Code before taking action to enforce it.[7] It has been argued that the complexity of retail supply chains and the GCA's lack of knowledge and resources have made defining the law a difficult task. The lack of clarity in the Code is not addressed by the GCA's principles over substance approach to guidance on forecasting and promotions, which leaves adequate scope for varying interpretations of what is required by retailers. In terms of clarifying the Code, this research suggests there has been an overreliance on cooperation between the regulator and regulatees, indicating negotiated non-compliance was the outcome of efforts to clarify the law. As the regulation literature makes clear, enforcement is central to the effectiveness of command regulation.[8] However, with the Code and the GCA's guidance failing to define what is meant by a forecast and what purpose it must serve, it is arguable that the question of enforcement has become somewhat of a moot point. A forecast appears to be compliant even where it offers little or no certainty at the point where the supplier has to commit to volumes of production.

The implication of the GCA's failure to clarify the Code's forecasting provision is that suppliers bear a disproportionate share of the risks and costs of food waste. As such, suppliers must mitigate the risks of food waste themselves. As demonstrated in Chapter 4, how much risk suppliers are forced to take depends in large part on the management style of the retailer, personal relationships between the supplier and retail buyer and a business model that allows for the flexibility to push and pull products between different customers. Nevertheless, in terms of the latter, this flexibility may be limited for smaller farmers, and this is a factor likely to drive further consolidation of retail suppliers in UK primary production. Furthermore, considering retail supply is dominated by large businesses who purchase products from smaller UK farmers and from overseas suppliers, the threat remains that the risks and costs of surplus and waste are then pushed onto these indirect suppliers.

[7] Jed Meers and Liz Hind, 'The "Code Adjudicator" model: The Pubs Code, statutory arbitration and the tied lease' Forthcoming, Legal Studies, 15.
[8] Carolyn Abbot, *Enforcing Pollution Control Regulation: Strengthening Sanctions and Improving Deterrence* (Bloomsbury Academic 2009) 4.

The GCA's 2021 annual report, again, highlighted the lack of compensation for forecasting error as top of the list of supplier issues, yet there is no indication in the report of what action, if any, they intend to take. It is within the GCA's statutory powers to make recommendations to the Competition and Markets Authority if the Adjudicator considers it appropriate for any changes to be made to the Code.[9] However, despite the continued problems experienced by suppliers, to date, the GCA has made no such recommendations. Arguably, if the GCA's regulatory regime is to have any impact in terms of stopping retailers deflecting the risks and costs associated with overproduction on to suppliers, the Code provision on compensation for forecasting error needs to be changed, so that it provides some level of certainty for suppliers. Similarly, any regulatory regime put in place under the Agriculture Act needs to take into account the problems experienced by the GCA regarding defining what a forecast is and what degree of certainty it must provide.

Notwithstanding the problems around forecasting accuracy, as argued in Chapter 4, the GCA could use communication regulation more effectively to highlight to important stakeholders which retailers are not treating their suppliers fairly; in particular, they could signal which retailers are causing their suppliers to waste food. However, the GCA's current method of calculating Code compliance fails to sufficiently differentiate between retailers' respective performance. Simply adding together when retailers are perceived to comply 'consistently well' with and 'mostly' with the Code masks potentially significant differences in compliance. As argued above, the lack of transparency in the GCA's published compliance information begs the question of what purpose the GCA's communication regulation is intended to serve. Information-based regulatory techniques can enhance transparency and accountability, especially for reputation sensitive corporations.[10] However, as Yeung has pointed out, more pessimistic critiques view such communication techniques 'as a potentially dangerous form of government propaganda'.[11] Publishing distorted information might highlight some perspectives and ideas while supressing others, therefore, disempowering, manipulating and inducing passivity in stakeholders rather than empowering them, yet, at the same time improving the reputation of government officials.[12] Arguably, the way the GCA presents its compliance information, what is included and what is left out, suggests both an element of negotiated non-compliance and that the primary purpose of this information is to maintain the GCA's reputation as an exemplary modern regulator.

[9] See S.11,12 and 13 Groceries Adjudicator Act 2013.
[10] Neil Gunningham and Darren Sinclair, *Leaders and Laggards: Next-Generation Environmental Regulation* (Greenleaf Publishing 2002) 122.
[11] Karen Yeung, 'Government by Publicity Management: Sunlight or Spin?' [2005] Public Law 360, 381.
[12] ibid.

The fact that retail power and position as gatekeepers to the consumer support overproduction by allowing the use of unfair trading practices is well recognised in the literature. The findings of this research make an important contribution by illustrating how unfair allocation of benefits and risks also create a barrier to voluntary efforts to prevent food waste through the Courtauld Commitment. As set out in Chapter 1, food waste prevention measures that bite on the problem of overproduction require changes to business models, which in turn require high levels of collaboration, both vertically and horizontally.

However, as demonstrated in Chapter 5, when it comes to collaborative solutions, while there were some examples of progress, this research suggests that collaboration was not yet taking place at the scale required to make a significant impact on food waste caused by overproduction. The findings of this research suggest that retail short-term economic interests have either derailed food waste prevention efforts or are a significant barrier to their implementation. Indeed, Chapter 5 showed that the potential for sales of wonky fruit and vegetables to reduce levels of overproduction through better utilisation of farmers' crops has been inhibited by inequitable sharing of the benefits and risks. Similarly, as demonstrated in Chapter 8, the need for an *ex-ante* business case has limited participation by retailers in whole chain FWR plans. Furthermore, as explained in Chapter 7, the economic cost associated with inventory management was shown to be one of the barriers to removing unnecessary 'best before' dates, a move that has the potential to significantly reduce household food waste.

Utilising surplus from primary production in value-added products or diverting it into food processing or manufacturing are other potential solutions, but there are still risks and benefits that need to be apportioned. Regarding the former, as shown in Chapter 5, making investments based on waste is risky for suppliers, particularly where investment costs are high and the margins are low. In addition, whether value-added foodstuffs in the same product category actually reduce levels of overproduction or simply pass surplus down the supply chain is questionable. Diverting surplus into food processing or manufacturing is perhaps the better solution. Yet, as argued in Chapter 5, uncertainty around consistent supply means there are some difficult conversations to be had about how the risks and benefits of waste reduction and increased efficiency are distributed throughout the supply chain. However, the sample of supply chain actors interviewed suggest that (with some limited exceptions) these difficult conversations are yet to take place.

Whole crop purchasing is one model that may help to overcome problems of risk-benefit allocation. Nevertheless, it would also shift a great deal of responsibility for the logistical challenges of reducing waste onto retailers. It is questionable to what extent many retailers would be willing or even capable of assuming this responsibility, especially with regard to

perishable crops that would require a significant investment in time and resources to manage. The above findings indicate retailers are unlikely to assume the responsibility involved to make whole crop purchasing work at scale without a considerable financial incentive to do so.

The findings of this research support the argument made by Swaffield and others that for retailers, moral and ethical justifications for action on food waste are contingent on there being sufficiently strong financial or reputational benefits, and this may prevent the implementation of long-term solutions to the problem.[13] This aligns with the scepticism expressed in the wider literature about the effectiveness of voluntary commitments aimed at environmental improvement in that businesses are unlikely to place the concerns of other stakeholders on par with those of their shareholders 'given the structural imperative of profit'.[14]

9.3.2. Competition and Trust

As discussed above, for retailers the need for the business case to support collaborative waste prevention measures is one barrier to industry collaboration. Importantly, the findings of this research suggest that competition between retailers also creates barriers to collaborative food waste prevention in a number of interrelated ways. First, and linked to inequitable sharing of the benefits, competition between retailers and the downward pressure this exerts on prices can create a lack of trust between retailers and their supplier's inhibiting collaboration in the vertical sense. Second, competitive positioning around consumer perceptions of quality and freshness impedes horizontal collaboration between retailers. Finally, competition in the so-called pre-competitive space for the reputational benefits of food waste prevention potentially cause a lack of trust, both between retailers in the horizontal sense and vertically between retailers and suppliers.

In relation to vertical collaboration, as illustrated in Chapter 8, while retailers expressed their enthusiasm for seeking collaborative win-win food waste solutions, the perception from suppliers was that the majority of any financial gains would be taken by retailers. This lack of trust meant that suppliers were reluctant to disclose to retailers which products or processes created high volumes of waste, therefore limiting the transparency of food waste in the supply chain and opportunities for collaborative solutions. The perception that retailers will take an unfair share of the benefits is further enhanced by the fact that some retailers have

[13] Joanne Swaffield, David Evans and Daniel Welch, 'Profit, Reputation and "Doing the Right Thing": Convention Theory and the Problem of Food Waste in the UK Retail Sector' (2018) 89 Geoforum 43, 50.
[14] Daniel Berliner and Aseem Prakash, '"Bluewashing" the Firm? Voluntary Regulations, Program Design, and Member Compliance with the United Nations Global Compact' (2015) 43 Policy Studies Journal 115, 118.

endeavoured to stake a claim on the reputational benefits of their supplier's food waste reduction efforts, in addition to financial gains.

In terms of horizontal collaboration, this research has found that competitive positioning around consumer perceptions of quality and freshness are a significant barrier to cooperation. This is demonstrated by collaborative failures relating to reducing cosmetic standards and the impact of date labelling. As demonstrated in Chapter 5, consumer perceptions of quality have constrained efforts to reduce cosmetic standards. The exception to this is where competitive forces provide a strong business case to do so, for example, where supply shortages or increased demand mean relaxation is necessary to maintain on-shelf availability, or for the big four retailers, where lower cosmetic standards are required to provide specific budget lines to compete with the discount supermarkets.

Perhaps the most prominent example of horizontal collaboration failure can be seen in the context of reducing the impact of date labelling. As illustrated in Chapter 7, consumer perceptions of freshness have constrained endeavours to remove unnecessary 'best before' labels on fresh fruit and vegetables. The indication from some suppliers is that Tesco's efforts to remove 'best before' labels was unsuccessful because of complaints and a concern that their customers might start to shop elsewhere. These competitive concerns could have been negated had there been a collaborative effort by all retailers to remove 'best before' labels. However, this research has found that (with the notable exception of Lidl) industry preference is to maintain 'best before' dates on exempt products, both to reassure consumers the produce is fresh and for ease of stock rotation.

Another explanation for the industry's failure to collaborate is that Tesco's early move turned the removal of 'best before' dates into a competitive issue. Because Tesco had already leveraged the reputational capital out of removing 'best before' dates, there was little incentive for other retailers to follow suit. Once the reputational benefits of a particular initiative have been claimed by one retailer, others are reluctant to be seen to be merely following the same approach to food waste prevention as their competitor. However, a problem with the lack of progress on the removal of unnecessary 'best before' dates is that the failure has become attributed to a lack of consumer acceptance rather than an industry failure to collaborate. The findings of this research show an industry belief that WRAP had the ability to make a much bigger impact on consumer habits through campaigns than they could by changing labels. Therefore, the industry view is that what is required is more consumer education, the

effectiveness of which has been questioned by a number of commentators.[15] Thus, the status quo is maintained, while WRAP's consumer-facing food waste campaigns are pitted against the power of retail marketing mechanisms that are designed to convince consumers of the importance of freshness and quality.[16] This plays into existing policy narratives that position consumers as responsible for the food waste problem and, accordingly, that what is required is end of pipe solutions.

The lack of industry collaboration on the removal of unnecessary 'best before' dates points to a wider problem within the Courtauld Commitment. As illustrated in Chapter 8, one of the barriers to effective food waste prevention revealed by this research is that competitive positioning around certain food waste initiatives is inhibiting a unified approach. This competition in the so-called pre-competitive space is a further barrier to the collaborative efforts required to implement strong food waste prevention solutions, specifically those that will have an impact on levels of overproduction. Competition for reputational capital has implications for the effectiveness of both the Courtauld Commitment and for voluntary agreements in general that seek to promote more sustainable use of resources. The social licence to operate can create incentives for businesses to take environmental measures beyond those required by law. However, in the context of voluntary commitments, what this research suggests is that in a highly competitive industry, the temptation for individual businesses to maximise their reputational capital may constrain the collective action required to meet overall sustainability objectives. As Coates and Middelschulte have pointed out, 'impactful sustainability action requires a broad platform among industry peers' … 'customer acceptance for joint initiatives has proven much stronger than stand-alone action'.[17]

As set out above, the purported strength of the Courtauld Commitment is that it provides a safe, pre-competitive space where industry can work together to achieve collective food waste prevention goals and deliver change in the most efficient, effective way.[18] As Piras and others have claimed, the pre-competitive space allows private actors to put aside competition and commercial interest to facilitate waste reduction across the supply chain.[19] Nevertheless, what this research has demonstrated is that competition and commercial interests lie at the heart

[15] CJ Reynolds and others, 'Review: Consumption-Stage Food Waste Reduction Interventions – What Works and How to Design Better Interventions.' [2019] Food Policy 381, 383.; David Evans, *Food Waste: Home Consumption, Material Culture and Everyday Life* (Bloomsbury Academic 2014).
[16] Rudolf Messner, Carol Richards and Hope Johnson, 'The "Prevention Paradox": Food Waste Prevention and the Quandary of Systemic Surplus Production' (2020) 37 Agriculture and Human Values 805, 810.
[17] Kevin Coates and Dirk Middelschulte, 'Getting Consumer Welfare Right : The Competition Law Implications of Market-Driven Sustainability Initiatives' (2019) 15 European Competition Journal 318, 325.
[18] WRAP Global and REFRESH (n 1) 4.
[19] Piras and others (n 1) 49.

of the problem, both in terms of driving overproduction (and the food waste it causes) and as a barrier to collaborative solutions to prevent it. The implication for food waste policy is therefore that restricting regulatory efforts within the commitment to pre-competitive issues, when underlying problem is competition itself, is ineffective when it comes to challenging the systemic problem of overproduction. Similarly, the 'safe' pre-competitive space is unlikely to question the power relationships that allow the costs and risks of food waste to be deflected on to weaker actors in the food chain; this is a fundamental limitation of the voluntary approach.

9.3.3. Problems of Design

In Chapter 2, design was highlighted as playing a key role in the effectiveness of voluntary commitments. As Segerson has pointed out, a well-designed voluntary agreement can be self-enforcing; however, such a result is far from guaranteed.[20] This research suggests the extent to which competition and retail commercial interests are allowed to constrain the scope and implementation of collaborative food waste prevention solutions is reinforced by design related problems. It is argued that Courtauld's design does not sufficiently incentivise retailers to take action on food waste that arises outside of their own operations. This lends support to the findings in Chapters 5 and 7 that while progress to reduce food waste is being made at the individual business level, significant barriers remain to the type of collaborative solutions required to make an impact on levels of overproduction.

Moreover, empirical research by Holley has shown that in relation to voluntary agreements, 'collaboration is highly contingent and contextual, and that success or failure is ultimately dependent on the specific circumstances of the problem and the design features of the institutions'.[21] This section sets out how the findings of this research indicate that there is a lack of participatory incentives, reliable monitoring, and clearly defined and transparent targets, all of which create barriers to collaborative food waste prevention solutions.

As this thesis has argued, retail practices are implicated in the generation of significant amounts of food waste that occur, both within the supply chain and in consumer households. However, the design features of the commitment do not sufficiently incentivise retailers to take action on food waste that arises outside of their own operations. In Chapter 8, it was argued that the structure of the Courtauld Commitment itself is a barrier to collaborative solutions. The lack of supply chain representation within the Commitment's working groups means retail interests are overrepresented in the forum where industry best practice is formulated and

[20] Kathleen Segerson, 'Voluntary Approaches to Environmental Protection and Resource Management' (2013) 5 Annual Review of Resource Economics 161, 173.
[21] Cameron Holley, 'Removing the Thorn from New Governance's Side: Examining the Emergence of Collaboration in Practice and the Roles for Law, Nested Institutions, and Trust' (2010) 40 Environmental Law Reporter News & Analysis 10656, 10683.

priorities are set. This potentially limits the scope and legitimacy of proposed solutions and cooperation at the implementation stage. This research has found that the lack of supply chain representation within the Commitment can be attributed in part to a lack of participatory incentives. For some businesses (including some of the UK's largest food manufacturers) the cost of participation, both in financial terms and with regard to the amount of time that needs to be invested outweigh the perceived benefits. While the free-to-join Roadmap has certainly got more businesses signed up to reduce their food waste, getting more signatories on board does not necessarily translate into the collaborative action that is required to tackle systemic overproduction in the food system. With industry best practice and priorities still being established at Courtauld level, it is difficult to see how the structural problems within the commitment are overcome.

In Chapter 2, it was stated that the existence of a credible regulatory threat as an alternative to the voluntary agreement should targets not be met, may provide an incentive for retailers to take action to reduce food waste outside of their own operations. Empirical evidence supports the notion that the threat of regulation, taxation or environmental liability can boost the effectiveness of participation.[22] The UK's 2018 Waste Strategy included threats to introduce:

> regulations to make food waste reporting mandatory for businesses of an appropriate size, set mandatory food waste prevention targets for appropriate food businesses and introduce surplus food redistribution obligations subject to progress made by businesses to reduce food waste.[23]

However, even if implemented, these threats do not place any legal responsibility on retailers to reduce levels of food waste outside of their own operations. Mandatory food waste reporting may well improve the transparency of food waste in supply chain sectors, or it could highlight individual businesses that create high levels of waste, which would be positive developments. As shown in Chapter 8, disclosure of food waste figures year on year provides a basis for such information to engage the social licence of large food businesses; this is therefore likely to focus firms' energies on food waste prevention. If reporting obligations are coupled with mandatory food waste reduction targets, this would create a legal responsibility for appropriate food businesses to reduce their food waste. Nevertheless, this does not necessarily mean it will help retailers or large food manufacturers reduce their supplier's food waste. On the contrary, mandatory reporting and targets may actually create perverse incentives that

[22] Segerson (n 20) 168.
[23] HM Government, 'Our Waste, Our Resources: A Strategy for England' (London, Crown Copyright 2018) 103.

reinforce the deflection of food waste risks upwards in the supply chain (or downwards to consumers). Therefore, it is important that primary producers are included in mandatory reporting requirements. The Waste Strategy indicated that reporting obligations would be limited to businesses of an appropriate size. Yet, while it is recognised that for smaller primary producers mandatory reporting might create a regulatory burden, it is perhaps these producers who are most at risk of having to shoulder the costs of food waste. Furthermore, as argued in Chapter 8, for larger corporate suppliers, the complexity of supply chains means mandatory reporting may not provide sufficient transparency to highlight root causes of food waste such as overproduction. As such, there may be an overemphasis on surplus redistribution to reduce individual business levels of food waste rather than collaboration to tackle the underlying causes at source.

In terms of mandatory redistribution, this research indicates that this threat holds little traction. Significant progress has been made during Courtauld 2025, with surplus redistribution increasing almost four-fold. As illustrated in Chapter 6, the social licence to operate creates a strong enough motivation for retailers and large food manufacturers to redistribute their surplus without legislative intervention. Surplus redistribution is also supported in part by the business case. For manufacturers, for-profit redistribution offers the chance to extract any remaining commercial value out of surplus food, and even charitable redistribution may offset the costs of waste disposal. Moreover, when it comes to showing a reduction in food waste at the individual business level, surplus redistribution is the low-hanging fruit.

The important point to be made here is that these regulatory threats do not place any legal responsibility on retailers for levels of overproduction that cause waste to arise in other parts of the food chain; therefore, there is little incentive to collaborate with either their suppliers or each other. Nevertheless, mandatory food waste reporting might be an important step towards improving the visibility of food waste in retail supply chains, especially if more accurate figures for primary production are ascertained. This may also provide justification for a different regulatory approach. As Holley has pointed out, law can be used as a 'direct tool to enhance the likelihood of successful collaboration'.[24] And, as Bradshaw has suggested, the fact that retailers escape any liability for food waste they have caused in other locations in the food chain 'raises questions as to whether an 'extended producer responsibility' regime for food

[24] Holley (n 21) 10661.

waste is warranted'.[25] On that point, provisions to impose producer responsibility obligations for food waste prevention have been included in the recently amended Environment Act.[26]

Finally, in terms of design, the regulation literature highlights the importance of credible and reliable monitoring and clearly defined, transparent targets. While both Courtauld and the IGD Roadmap seek to meet collective targets, it is argued that the reporting obligations and the measurement of progress towards those targets once again focus food businesses on improvement at an individual level. Whether reporting publicly or not, both the Courtauld Commitment and the IGD Roadmap require signatories to report annually. As shown in Chapter 5, the measurement and reporting obligations both raise awareness and facilitate a business case for food waste prevention measures at an individual level. The Roadmap's management-based regulatory approach encourages large businesses to adopt the SGD 12.3 target, and to reduce food waste across their UK operations by 50 per cent by 2030.[27] WRAP uses the information provided by retailers and manufacturers to calculate food waste reduction progress in these sectors annually.[28] However, assessing progress towards the collective targets (per capita reductions) requires the measurement of household food waste, and this is only being done every three to four years.[29] As shown in Chapter 2, household food waste accounts for around 70 per cent of all post-farmgate food waste, yet the last measurement of household food waste volumes took place in 2018 and the results of which were not made public until January 2020.[30] While the methodology used to calculate household food waste may be robust, it only provides a snapshot of waste levels that are measured at that point in time.[31] Without regular and reliable information on progress towards reducing household food waste, it is hard to see how WRAP, the government or civil society can exert pressure on industry to take collaborative action to reduce the mechanisms that cause food waste in the home.

This measurement problem is linked to the fact that currently less than half of local authorities in England provide separate household food waste collections. This means there is no reliable source of up-to-date information to assess household food waste levels. This disparity has been addressed by provisions in the 2021 Environment Act, which place a duty on local

[25] Carrie Bradshaw, 'England's Fresh Approach to Food Waste: Problem Frames in the Resources and Waste Strategy' (2020) 40 Legal Studies 321, 341.
[26] See Schedule 4 Environment Act 2021.
[27] WRAP IGD, 'Food Waste Reduction Roadmap Toolkit' (Waste and Resources Action Programme 2018) 10.
[28] IGD WRAP, 'The Food Waste Reduction Roadmap Progress Report 2021' (Waste and Resources Action Programme 2021).
[29] IGD (n 27).
[30] WRAP, 'UK Progress against Courtauld 2025 Targets and UN Sustainable Development Goal 12.3 Final Report' (Waste and Resources Action Programme 2020) BCV011-005 15.
[31] ibid 13.

authorities to collect food waste separately from general waste and other dry recyclables. Nevertheless, food waste may still be mixed with garden waste, which may still create measurement difficulties.[32]

The final point to be made on design relates to clearly defined and transparent targets. According to WRAP, the 'Roadmap is hugely ambitious, and the UK is the first country in the world to set a nationwide plan towards delivering SDG 12.3 and halving food waste by 2030.'[33] WRAP also states,

> The UK has achieved a 27 percent reduction in post farm-gate food loss and waste per capita by 2018… Thus, the United Kingdom is the first country in the world, with data to prove it, to be more than halfway to the SDG 12.3 target of a 50 percent reduction by 2030.[34]

However, the ambition of the Roadmap is questionable. Rather than using 2015 as a baseline, (the year SDG 12.3 was formulated and also the year prior to Courtauld 2025's launch), WRAP moved to a composite baseline to calculate progress. The composite baseline means progress towards meeting the SDG target is calculated against snapshots of food waste levels that were modelled in 2007 for households, in 2009 for retail and in 2011 for manufacturers, hospitality and food service.[35] Using different baseline years for different sectors makes it difficult to understand how progress is calculated, therefore inhibiting the overall transparency of the target. In terms of effectiveness, the advantage of using the composite baseline is that it shows a 27.1 per cent reduction in post-farmgate food waste. WRAP uses this data to claim, 'strategies developed under Courtauld 2025, delivered through wide-ranging partnerships and supported by industry are effective'.[36] Yet, measured against a 2015 baseline, the per-capita reduction is a far more modest 9.1 percent.[37] The problem with WRAP's effectiveness claim is that two-thirds of the progress towards the target have occurred before Courtauld 2025 or the Roadmap were launched. Furthermore, in primary production, which is where real collaboration is required to reduce levels of food waste, this is outside the scope of the target. It is arguable that the use of the composite baseline lowers the level of ambition of the Roadmap significantly and overstates the effectiveness of the voluntary approach. The fact that the UK is held up as being over halfway towards meeting the SDG target does little to put

[32] See Section 57 of the Environment Act 2021.
[33] WRAP (n 28) 5.
[34] Brian Lipinski, 'SDG Target 12.3 On Food Loss and Waste: 2020 Progress Report an Annual Update on Behalf of Champions 12.3' (World Resources Institute 2020) 7.
[35] WRAP (n 30) 10.
[36] ibid 1.
[37] ibid 18.

pressure on retailers and industry as a whole to collaborate and make progress in areas like household food waste. As such, how the target has been defined creates a further barrier to the collective action required to reduce levels of overproduction.

This research has found the voluntary approach to be inherently limited; getting competitive businesses to collaborate at scale is a significant regulatory challenge. The findings of this research suggest that inequitable sharing of benefits and risks, competition between retailers and problems of design create significant barriers to the effective collaboration necessary for industry to tackle food waste caused by the overproduction of food. One of the stated strengths of the voluntary approach is that it works in a pre-competitive space, yet competition between retailers has been shown to be both a cause of overproduction and a barrier to collaborative solutions to prevent it. This research suggests that by working within the confines of the so-called pre-competitive space, the voluntary approach (Courtauld and the Roadmap) focus signatories on weaker forms of food waste prevention, increased efficiency and surplus redistribution. Consequently, the impact on levels of food waste caused by overproduction is likely to be minimal; in fact, an overreliance on efficiency gains and surplus redistribution may well stimulate increased levels of food production.

In relation to increased efficiency at the individual business level, the first point to make is that these improvements would likely have taken place in the absence of any voluntary commitment, albeit at a slower pace. As shown in Chapter 5, this research illustrated a reluctance by signatories to attribute waste reductions solely to their participation in voluntary commitments. Second, and most importantly, reducing the amount of food that is wasted at the production stage is no guarantee that overall levels of overproduction and food waste will be reduced. As was pointed out in Chapter 1, if food is produced more efficiently, the cost savings may actually stimulate increased purchases; thus, higher levels of overproduction and waste may also be created, particularly at the consumption end of the food chain.[38] As Chapter 8 illustrates, the competitive nature of the UK's retail sector means efficiency gains in the supply chain are often converted into lower food prices. As Benton and Bailey argue, the paradox of increased efficiency in the production of food is that productivity coupled with competition reduces the relative cost of food, making it economically rational for consumers to waste it.[39] Therefore, focusing on increasing efficiency without addressing the question of

[38] Micheal S Carolan, 'Ecological Modernization Theory: What About Consumption?' (2004) 17 Society & Natural Resources 247, 251.
[39] Tim G Benton and Rob Bailey, 'The Paradox of Productivity: Agricultural Productivity Promotes Food System Inefficiency' (2019) 2 Global Sustainability 4.

excess availability may lead to decreased efficiency within the food system as a whole, as the costs of waste are externalised.[40]

Similarly, increasing the amount of surplus food that is redistributed may also support higher levels of overproduction. It is important to point out that redistributing surplus does reduce levels of food waste. Furthermore, due to uncertainties in demand and supply redistribution is, and should remain a valuable mechanism for ensuring edible food is not wasted. However, as highlighted in Chapter 6, a continued emphasis on increasing levels of redistribution accommodates overproduction in the food system rather than questioning why such high levels of surplus exist in the first place. Despite an almost four-fold increase in levels of redistribution since the launch of Courtauld 2025, WRAP estimates there may still be an additional 500,000 tonnes per annum of surplus in the supply chain. It is argued the that the focus needs to shift onto reducing this surplus rather than using public funds to support its redistribution. As Midgely has pointed out, redistribution alone offers 'little incentive to change industry behaviours'.[41] Midgely's point is supported by the findings of this research that show enthusiastic support for redistribution but also the existence of industry reluctance to change the practices that cause surplus and waste throughout the food chain. As stated above, redistribution provides reputational benefits; although it comes at a cost for retailers and food producers, it mitigates the risk of maintaining high levels of availability.

Moreover, there are two additional interrelated problems with regard to increasing the volumes of surplus food redistribution. First, redistributing greater volumes of food does not mean that those who rely on charitable redistribution will receive the right balance of nutritious food. Second, given the vagaries of supply and demand, where large quantities of a particular food product are made available for redistribution, there is no guarantee that this food will not end up returning to the waste stream via a different route. As this research has found, competition between redistribution organisations, particularly in relation to retail own-brand products, may be causing a lack of collaboration between charitable redistribution organisations, meaning some food sent for redistribution still ends up being wasted.

The Covid-19 pandemic has exacerbated levels of poverty in the UK, and this research has revealed that this has strengthened the reputation capital redistribution can provide for retailers and large food manufacturers. The danger is that this creates a perception that producing surplus food is less problematic as it provides a public good and improves social

[40] ibid.
[41] Jane L Midgley, 'The Logics of Surplus Food Redistribution' (2014) 57 Journal of Environmental Planning and Management 1872, 1898.

standing in the community. This illustrates again that social licence considerations potentially act as a barrier to addressing the problem of overproduction. While food redistribution may 'augment the food supply to food banks and other charitable providers of emergency food, such interventions fail to address the structural reasons why people are queuing for emergency food relief'.[42] As argued in Chapter 6, the government has increasingly relied on food redistribution as a means of improving access to food for people, both in food-insecure households and those in abject poverty. This represents an absence of the state, both in terms of addressing the causes of poverty and a dysfunctional food system that externalises the environmental and social costs of overproduction. Similarly, at the individual business level, for signatories of Courtauld and the Roadmap, overreliance on food redistribution as the principal means for meeting food waste prevention targets distracts retailers and food producers from tackling overproduction as a root cause of food waste. As such, redistribution poses a significant barrier to the collaborative efforts required to reduce levels of overproduction.

9.4. Further Research

This research has begun to address the gap in the food waste literature in relation to the effectiveness of regulatory efforts to prevent food waste caused by the overproduction of food. As stated in the methodology chapter, the intention of this research is to open up this issue and to lay the foundations for further work in this area. While the research offers some valuable insight into the barriers faced by regulatory efforts to prevent food waste, the qualitative approach used means no claims can be made in terms of the representativeness of the sample or the generalisation of the findings. Nevertheless, taking a qualitative approach was important because this is the first research project situated in the context of food waste prevention that has attempted to investigate regulatory issues across the whole supply chain.

While this research has identified some significant barriers to regulatory efforts to prevent food waste, the extent to which these barriers actually impact on levels of food waste cannot be assessed using the research design deployed in this thesis. Nor can it be ascertained to what extent these barriers exist across all the different sectors in the supply chain. What this research does highlight is the need for a much more extensive and longer investigation into the challenges for the regulation of food waste caused by overproduction. This thesis thus raises a number of further research questions.

[42] Margo Barker and Jean Russell, 'Feeding the Food Insecure in Britain: Learning from the 2020 COVID-19 Crisis' (2020) 12 Food Security 865, 867.

One of the most significant findings of this research is the negative impact of competition on collaborative efforts to prevent food waste. As such, there is a need to understand the extent to which competition law acts as a barrier to collaboration. On the supply-side, the Agriculture Act 2020 amended the Competition Act 1988 to allow agricultural producers to join forces through purchasing organisations to coordinate planning, negotiation and supply without this being classed as anti-competitive behaviour.[43] However, as this research has found, collaboration between retailers is also required, both in terms of changing business models to allow better utilisation of the outputs of primary producers and in the context of reducing household food waste. Therefore, policymakers need a clearer understanding of if, and if so, how competition law might need to be amended to allow collaboration to take place in the interest of reducing food waste.

This research data indicated that there had been a reduction in levels of supply-side overproduction for some suppliers. However, more quantitative research is required to assess levels of overproduction and food waste in primary production. Given that the majority of farmers do not supply retailers directly, there is a need to understand if, and if so to what extent, retail pressures to overproduce, and the risk of food waste this creates, might have been passed up the supply chain to indirect suppliers. This is especially important now that powers exist in the Agriculture Act for a regulatory regime to protect suppliers from unfair trading practices by other 'qualifying sellers' of agricultural products.[44]

Related to primary production and the risks associated with overproduction, the whole crop purchasing model is one approach that may negate the problem of inequitable risk sharing that has been highlighted in this thesis as a barrier to food waste prevention solutions. However, as was made clear in Chapter 5, it is unclear how widespread the use of this model currently is. Furthermore, this research has raised a number of questions about the utility of this model where crops are harvested over longer time periods and perish relatively quickly. Consequently, there is a need to gain a better understanding of the factors that might enable and constrain its use as a trading model.

Finally, with regard to the effectiveness of surplus food redistribution, this research indicates that some products that enter the redistribution network end up returning to the waste stream. Given the emphasis on surplus redistribution as a means of meeting voluntary food waste reduction targets, there is a need for quantitative research to understand how much food is wasted and the extent to which, and how, this is recorded against what enters the redistribution network.

[43] Agriculture Act 2020 Section 31.
[44] ibid Section 29.

Appendices

Appendix A – Table of Interview Subjects by Type

Subject Type	Code	Name of Organisation	Products Supplied	Interview Date	Interview Number	Courtauld Signatory	Roadmap Signatory
Primary Producer	PP01	Anonymous	Vegetables	28/01/2020	1	No	No
Primary Producer	PP02	Anonymous	Salad	04/03/2020	3	No	No
Primary Producer	PP03	Anonymous	Vegetables/ Salads	09/04/2020	5	Yes	Yes
Primary Producer	PP04	Poskitts	Vegetables	18/05/2020	6	No	No
Primary Producer	PP05	Worldwide Fruit	Fruit	08/06/2020	7	Yes	Yes
Primary Producer	PP06	Anonymous	Vegetables	21/07/2020	10	No	No
Primary Producer	PP07	Anonymous	Vegetables	24/07/2020	11	Yes	Yes
Primary Producer	PP08	Greenvale	Potatoes	02/02/2021	33	No	Yes
Primary Producer	PP09	Agricultural Investments Ltd (DPS)	Fruit	29/01/2021	32	No	Yes
Large Food Man.	LFM01	Greencore	Sandwiches /pre-prepared foods	11/06/2020	9	No	Yes
Large Food Man.	LFM02	Anonymous	Various Meat Products	10/09/2020	12	Yes	Yes
Large Food Man.	LFM03	Anonymous	Beef/ Lamb	15/10/2020	16	Yes	Yes
Large Food Man.	LFM04	Anonymous	Milk/Diary	30/10/2020	17	No	Yes
Large Food Man.	LFM05	Anonymous	Various Products Ready meals/ Meat products	09/11/2020	19	No	Yes
Large Food Man.	LFM06	Anonymous	Meat substitute products	26/11/2020	21	Yes	Yes
Large Food Man.	LFM07	Anonymous	Various products	04/12/2020	24	Yes	Yes
Large Food Man.	LFM08	Fullers Foods	Ready Meals/ Frozen products	28/01/2020	30	No	Yes

Large Food Man.	LFM09	Anonymous	Milk/Dairy	05/03/2021	34	Yes	Yes
Retail	RET01	Waitrose		14/10/2020	14	Yes	Yes
Retail	RET02	Anonymous		13/01/2021	26	Yes	Yes
Retail	RET03	Marks & Spencer		24/11/2020	20	Yes	Yes
Retail	RET04	Tesco		14/10/2020	15	Yes	Yes
Retail	RET05	Lidl		21/01/2021	27	Yes	Yes
Retail	RET06	Anonymous	Code Compliance	28/09/2020	13	Yes	Yes
Food Redist.	RED01	The Bread-and-Butter Thing		10/06/2020	08	Yes	Yes
Food Redist.	RED02	Food Cycle		02/11/2020	18		
Food Redist.	RED03	Company Shop		02/12/2020	22	Yes	Yes
Food Redist.	RED04	FareShare		16/12/2020	25	Yes	Yes
NGO	NGO01	Feedback		23/03/2020	04	No	No
Activist	ACT01	Anonymous		11/02/2020	02	No	No
Trade As	TRA01	Food and Drink Federation		03/12/2020	23	Yes	Yes
Trade As	TRA02	IGD		29/01/2021	32	Yes	Yes
WRAP	WRAP	WRAP		21/01/2021	28	Yes	Yes
WRAP	WRAP	WRAP		27/02/2021	29	Yes	Yes

Appendix B – Example Interview Questions

Interview Questions Primary Producer

Grower

How diversified is your customer base, i.e., who do you supply? supermarkets, food processors/manufacturers? And what is the percentage split?

Does food waste have a significant impact on your business?

What do you consider to be the main causes or drivers of food waste in your business?

Do you measure food waste in your own operations? And if so, how do you do this? Do you include food waste left in the field?

How do you currently manage food waste within the business?

Courtauld Commitment/IDG Roadmap

Are you aware of the Courtauld Commitment/IGD roadmap?

Are you involved with these initiatives in any way? For example, working with retailers or food manufacturers to reduce your food waste, in your operation, for retailers, or for consumers?

Do you have a food waste reduction plan? If so, what does this involve?

Fruit and vege growers only. What do you think about efforts to sell imperfect produce, wonky vege etc.?

Are you involved with any of these initiatives? If not, why not?

How important do you consider reducing food waste to be, morally, environmentally or economically for your business?

What do you do with surplus food? Are you involved in redistributing food to charities? Gleaning?

Are you currently taking any other measures of your own to reduce food waste in your business?

Are there any opportunities to reduce food waste in your business that are not achievable, due to practical, or financial restraints?

To what extent do you feel food waste within your business is within your control?

GSCOP

What processes are involved in forecasting and confirming supermarket orders? How much input do you have into the forecasting process?

How important is it for you to meet the forecast requirements of supermarkets?

Have you ever had contractual penalties enforced on the business? Or been threatened with being delisted?

If you supply more than one supermarket – What differences are there between supermarkets in the way the forecasting process is done and communicated?

I understand growing crops is sometimes difficult due to weather, pests and disease, how do you ensure that you meet the forecast requirements of the retailers you supply?

Do you grow extra produce to ensure targets are meet? If so, how much?

If so, what typically happens with the extra produce?

How are retail customers performing in terms of product forecast vs product taken?

Have you ever received compensation for forecast error?

Have you, or would you consider making a complaint to the GCA, if you suffered significant loss as a result of forecasting error? If not, why?

Has the establishment of the GSCOP, and Grocery Code Adjudicator had any impact on your relationship with supermarket buyers?

Do you think the provisions on forecasting and delisting of suppliers have had an impact on the way supermarkets deal with your business?

Has there been any change in the way forecasts and orders are processed as a result of the GSCOP and GCA? Has there been any impact on volumes of food waste?

Do you consider the trading relationship you have with supermarkets to be fair?

What do you think are the strengths and weaknesses of the GSCOP regime?

If you supply supermarkets through intermediaries, is there any difference in the way forecasts and orders are managed? Any contractual differences, i.e., financial penalties for short supply?

Do you grow more, or less (in comparison to supplying supermarkets) to ensure targets are meet?

Communication Regulation

Do you take part in the YouGov annual GCA survey of suppliers?

If so, how does this process work?

Do the league tables collated on treatment of suppliers influence the way supermarkets deal with you in any way?

Agriculture Bill (Primary Producer)

Are you aware of the proposed new Agriculture Bill?

Do you think the provisions of the Agriculture Bill may strengthen your market position?

Do you think the Agriculture Bill might have an impact on food waste?

If you supply supermarkets directly and intermediaries or food manufacturers, are you concerned about having another regulator and perhaps different rules for the same produce?

There are some NGOs and academics who take the view that the retail sector in England, as a whole, is just producing too much food, and this is the underlying cause of food waste. How would you respond to this criticism?

Appendix C – Information Sheet and Consent Form

THE UNIVERSITY of York

The York Law School

Participant Information Sheet

Background

I would like to invite you to take part in the following research project: Regulation for the Prevention of Food Waste. The research is being conducted by Andre Pringle PhD student from the University of York and is supervised by Professor Simon Halliday (University of York) and Dr Carrie Bradshaw (University of Leeds). Before agreeing to take part, please read this information sheet carefully and let us know if anything is unclear or you would like further information.

What is the purpose of the study?

The study is designed to gain a better understanding of the impact of current efforts to prevent food waste. Preventing food waste has been recognised as a key challenge for making our food system more sustainable. To this end, food businesses in England are taking measures both voluntarily, and as a result of regulation, to reduce food waste throughout their supply chains and at consumer level. The purpose of this research is to gain a better understand of the impact of these measures in terms of preventing food waste. In doing so the research seeks to understand:

1. What types of measures are being taken by food businesses to prevent food waste?
2. How are the measures being implemented impacting on volumes of food waste, and patterns of production and consumption?
3. What are the factors that create barriers, or enable, current food waste reduction targets to be met?
4. What role (if any) should regulation play in the prevention of food waste?

Why have I been invited to take part?

You have been invited to take part because your organisation you may be able to shed important light on what impact measures being taken to prevent food waste are having on actors in the food supply chain, consumers, or efforts to redistribute food to people in need. These measures may have been taken voluntarily or as a result of regulation. Understanding whether, and if so how, actors within food production and consumption have been affected (positively or negatively) by any measures taken by food businesses offers important insight into the effectiveness of current efforts to prevent food waste.

The interview should last approximately one hour and will be conducted in person. the information you provide will be treated confidentially and you will be given anonymity. If you wish not to remain anonymous, you may give your consent to be named in the research. If you agree, the interview will be recorded and transcribed. All information received from you will be stored on the University's secure server and used in the analysis of the project. The interview recording will be deleted as soon

as it has been uploaded to the secure server. If you are interested, we will happily provide you with a summary of the research findings.

Do I have to take part?

No, participation is strictly on a voluntary basis. If you do decide to take part, you will be given a copy of this information sheet for your records and will be asked to complete a participant consent form. If following the interview, you decide that you do not want the information you have provided to be included in the research, you may withdraw your consent within three months of the interview, without having to provide a reason.

On what basis will you process my data?

Under the General Data Protection Regulation (GDPR), the University has to identify a legal basis for processing personal data and, where appropriate, an additional condition for processing special category data. In line with our charter which states that we advance learning and knowledge by teaching and research, the University processes personal data for research purposes under Article 6 (1) (e) of the GDPR: *Processing is necessary for the performance of a task carried out in the public interest* Special category data is processed under Article 9 (2) (j): *Processing is necessary for archiving purposes in the public interest, or scientific and historical research purposes or statistical purposes*

Research will only be undertaken where ethical approval has been obtained, where there is a clear public interest and where appropriate safeguards have been put in place to protect data. In line with ethical expectations and in order to comply with common law duty of confidentiality, we will seek your consent to participate where appropriate. This consent will not, however, be our legal basis for processing your data under the GDPR.

How will you use my data?

Data will be processed for the purposes outlined in this notice.

Will you share my data with 3rd parties?

No personal data will be shared with 3rd parties. Data will be accessible to the researcher and project supervisors only. Anonymised data may be reused by the research team or other third parties for secondary research purposes.

How will you keep my data secure?

The University will put in place appropriate technical and organisational measures to protect your personal data and/or special category data. For the purposes of this project, data will be stored on a University of York file store. This will be secure and access restricted based on need. The identities of participants in the interview will be removed from the interview transcripts. To ensure anonymity, the company name will be removed (replaced with coded identities, e.g. EG-01) and listed only in a master list of participants which is stored as an encrypted file. Consent forms will be created in hard copy and notes may be taken at interviews. These forms will be scanned and uploaded to the University file store. After this transfer, the hard copies will be destroyed.

Will you transfer my data internationally?

No.

Will I be identified in any research outputs?

Anonymity will be assured, neither the name of company nor any personnel that represent it will be identifiable in the research, unless explicit consent to do so is given by you. This means company names will be replaced with anonymous IDs. Further, no information will be disclosed that may allow identities to be disclosed indirectly.

How long will you keep my data?

Data will be retained in line with legal requirements or where there is a business need. Retention timeframes will be determined in line with the University's Records Retention Schedule. Any personal data will be destroyed on completion of the research. Data generated by the researcher may be archived for a period of 10 years. However, archived data will remain encrypted.

What rights do I have in relation to my data?

Under the GDPR, you have a general right of access to your data, a right to rectification, erasure, restriction, objection or portability. You also have a right to withdrawal. Please note, not all rights apply where data is processed purely for research purposes. For further information see, https://www.york.ac.uk/records-management/generaldataprotectionregulation/individualsrights/.

Questions or concerns

Should you have any queries about this research, please do not hesitate to contact the researcher, Andre Pringle at Andre.Pringle@york.ac.uk. If you have any concerns about the research, in the first instance you can contact the Head of Department, Professor Caroline Hunter at Caroline.Hunter@york.ac.uk

The ethics of this research has been reviewed by the ELMPS inter-departmental ethics committee at the University of York. If you have any further concerns about the research, you can contact Tony Royale the Chair of the ELMPS committee at elmps-ethics-group@york.ac.uk.

If you are still dissatisfied, please contact the University's Acting Data Protection Officer at dataprotection@york.ac.uk.

Right to complain

If you are unhappy with the way in which the University has handled your personal data, you have a right to complain to the Information Commissioner's Office. For information on reporting a concern to the Information Commissioner's Office, see www.ico.org.uk/concerns.

THE UNIVERSITY of York

The York Law School

Evaluating Regulation for the Prevention of Food Waste

Consent Form - Interviews

Name/Organisation	
Contact details	
Email	

This form is for you to state whether or not you agree to take part in the project. Please read and answer every question. If there is anything you do not understand, or if you want more information, please ask the researcher. You will receive a copy of this form.

1.	Have you received, read, and understood the Information Sheet setting out the purpose of the project?	Yes No
2.	Have you had an opportunity to ask questions about the project?	Yes No
3.	Do you understand that the information you provide will be held in confidence by the researcher and the research supervisors?	Yes No
4.	Do you understand that participation in the project is completely voluntary?	Yes No
5.	Do you understand that anonymity will be assured unless you explicitly wish to be identified in the research? This means company names will be replaced with anonymous IDs. Further, no information will be disclosed that may allow identities to be disclosed indirectly.	Yes No
6.	Do you understand that you should flag to the researcher if you give sensitive information that might allow you to be identified?	Yes No
7.	Do you give consent for yourself/company name to be identified in the research?	Yes No
8.	Do you understand that if you decide that you do not want the information you have provided to be included in the research, you may withdraw your consent within three months of the interview, without having to provide a reason.	Yes No
9.	Do you agree to take part in the project?	Yes No
10.	If yes, do you agree to your interviews being audio-recorded for the purposes of assisting transcription? The interview recording will be deleted as soon as it has been uploaded to the secure server. (you may take part in the project without agreeing to this).	Yes No
11.	Do you consent to your personal data (name and contact information) being stored during the data collection phase of the project?	Yes No
12.	Do you understand that there are no financial incentives offered for participation in this project?	Yes No
13.	Do you wish to receive a summary of the findings of this research?	Yes No

All data will be held by the University of York in accordance with the General Data Protection Regulation (GDPR) and the Data Protection Act 2018 and any other relevant legislation.

X _____ _____

Signature of Participant Signature of Researcher

_____

Date

The ethics of this research has been reviewed by the ELMPS inter-departmental ethics committee at the University of York. If you have any concerns about the research you can contact Tony Royale the Chair of the ELMPS committee elmps-ethics-group@york.ac.uk.

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