UK Food Prices: cooling or bubbling?

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This briefing paper looks at an issue which has been much discussed in recent years: food prices. It has been written at the request of UK civil society organisations consulted as part of the Food Research Collaboration, a three year project in which academics and civil society are reviewing challenges to the UK food system.

Few issues bridge the daily lives of the consuming public and the worlds of the food industry and policy-makers as clearly as the price of food. It is a constant factor in modern politics and has featured throughout British and international history as a very 'hot' topic. Only this month, a Food Standards Agency publication (1) shows a high proportion of survey respondents still concerned about food prices. In this Briefing Paper, we focus on the current status of UK food prices, the implications of food price rises for living standards, and the issues arising for policy-makers, industry and the public. Challenges include:

- The need for high quality food at affordable prices produced with minimal environmental damage.
- The need for more transparency in food supply chains.
- The impact of agricultural subsidies on farm production, structure of the industry and food prices.
- The prospect of higher prices - for many reasons but especially to internalise externalised costs - has considerable political implications for all consumers but particularly for those on low incomes.
- The fact that food expenditure cannot be looked at in isolation from total household expenditure.
- That consumer culture is likely to face a period of considerable adjustment, as food shifts from being a small (perhaps too small) proportion of total household expenditure to a much larger proportion.

1. Food prices in the UK: some policy questions

As far back as Peel's fatal career move in 1846 to repeal the Corn Laws, government policy in the UK has had an interest in keeping food prices low to protect consumers. The UK's 1947 Agriculture Act refers to production at "minimum prices", an objective that is reiterated in the 1957 Treaty of Rome which the UK joined in the 1970s. For two centuries, low food prices have been championed as a benefit to poorer consumers. Given that less wealthy households tend to spend a higher proportion of incomes on food, this has been presented as a pro-poor stance for successive governments to pursue.

Yet, since the 2007/08 price spike, academics and analysts have warned policy-makers worldwide that the long-term drop in food prices since the mid-20th century has been replaced by a period of uncertainty and volatility, with all the geo-political implications that follow.(2) In the UK there has been much media and academic debate about the subject of high food prices and their impact on household economic welfare. Families have to wrestle over decisions such as whether to "heat or eat". Food banks have grown significantly in numbers and emerged as a charitable source of short-term aid to formerly food secure households.(3) At the same time as these developments, the Office of National Statistics began to note that food prices have risen higher than average wages.(4) What matters is not just food prices themselves but affordability, how much disposable income people have to spend on food. If wages rise at a slower rate than food price inflation, people's food budgets are squeezed; and that is what has happened, although the scale of that has been slowing.

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This issue raises important public policy questions. Is the period in which policy-makers try to minimise food prices over? How are different income groups being squeezed? Will competition among food retailers (the rise of discounters) continue the drive down of food prices? Was this a good policy in the first place? Had it gone too far? And did it ignore the rising evidence that 'efficient' food systems in fact had high externalised environmental and health costs, paid for by taxpayers or ecosystems destruction? Was it right that food prices were driven ever lower in the first place, if this merely squeezed primary producers out of existence? Should consumers now be persuaded of the environmental and health benefits of higher prices? These are important questions that go beyond the scope of this paper but which academics and civil society organisations are now rightly asking. This paper thus enters a vast and complex terrain. It opens the Food Research Collaboration's strand of work in this area by summarising evidence on recent trends in UK food prices. What actually is going on?

2. The economic nature of food

In simple economic theory, as the price of a good falls, so demand rises. Equilibrium is reached when the quantity that consumers want to purchase equates to the quantity that sellers are willing to supply at any given price. Demand for food as a group has traditionally been treated as "inelastic" meaning that it is not very responsive to changes in price. Consumers will not significantly change the quantities purchased if prices rise, and vice versa. However, this is complicated by the prospect of substitution. If the price of one good rises, demand for a substitute good with similar attributes will rise, an example being the potential substitutes of butter and margarine.

This makes it difficult to define food prices as low or high. Low priced food will not necessarily be that which consumers demand more of because of the intricate consumption decisions taken as the consumer stands in front of the laden cheese display that offers the full range of price and flavours. If it is difficult to define "cheap", it is difficult to define UK food prices as low or high. This requires a comparator.

Food price in relation to incomes is one such possibility. If food takes an increasing proportion of incomes as prices rise, then the conclusion might be that food prices are no longer low. Across income groups, the proportion of expenditure on food will fall as incomes rise, according to Engel. This tells us therefore about which groups will be affected the most by price rises, but not about whether food is "cheap". The paper will look at other comparators.

According to Hill and Ray (5) and Boyns (6), in practice consumers tend to "trade" up or down in response to price and income changes, spending more or less money but not necessarily altering the quantities of food which they purchase. The different quality ranges on offer from the major supermarkets make it possible for the consumer to eat across the price range, playing with the price elasticities and confusing the concept of low priced food.

3. How should food be priced?

In the 19th and early 20th centuries, policy concerned ensuring that voters had sufficient diets at a reasonable cost. In 1885, the working classes spent 71% of their earnings on food and drink with bread being the main staple food (7). In 1946, food expenditure accounted for 34% of average incomes (8). With such a high proportion of income being diverted to food consumption, a debate on the ethical justification for keeping prices low would have been a luxury. In society today there are some who would argue that such a policy is no longer justifiable: it may be that

lower food prices result only from competition between producers and between retailers (8), the recent significant price reduction for liquid milk by a large UK supermarket being just one example of this (9).

Hewson (10) picks up on the work of Appleby et al (8) and lists the costs to society of cheap food. In addition to the problem of obesity and other chronic diseases which burden those inflicted as well as the healthcare system, there is the impact on farm incomes in the UK and overseas and the resultant impact on small farms, small retailers and associated communities. Lower prices can result in a lack of business investment. Demand for cheap food can lead to poor animal management practices that can compromise behavioural needs and animal health, and can lead to corners being cut in health protection. Land use practices that are detrimental to wildlife and the environment can thus be shaped by the pressure for cheap food. Costs to the environment of processing, packing and transporting food are not reflected in the price consumers pay. Nor does it help if marketing strategies are focused on celebrating ever lower prices to the consumer. The cultural assumption is that 'cheap' equals 'good'.

Studies fairly consistently show that British consumers put price as their top considerations when purchasing food, but other values feature, too, and have become more important. Research by IGD ShopperVista (11) showed that 56% of those surveyed wanted to know more about where their food came from after the horsemeat scandal of early 2013 compared with 34% who were interested in 2011. Work by Which? echoed that, with it finding that the more consumers knew, the more they wanted to know.(12) Lawley (11) predicts these consumers will increasingly be interested in food products made with locally produced ingredients that are controlled to ensure that adulteration and contamination are unlikely to ever occur. Although such assurance can only be a good thing, the delivery on such promises has to be paid for, and something has to drive the change. In a food system with long and complex supply chains – raised again by the Elliott Inquiry into horsemeat (13) - the question often becomes: who pays, who profits, and whose margins are squeezed in the transition? As wider values begin to impinge on how food is grown, processed, retailed, cooked and consumed, there is a good case for clear frameworks to be set. This is the responsibility of both national and European systems of food governance.

4. Where are UK food prices?

Many food products are so segmented that it becomes difficult to define one as being cheaper than another. A Discovery apple has different attributes to those of a Bramley: the prices are not comparable. A Cox might substitute for a Discovery as a popular eating apple but each has its own distinct qualities. If it is so difficult to compare prices within food categories it is even more complex to compare across food types.

At a generic level, food prices can be assessed on a number of different indicators. Understanding where prices are now may be a first step in deciding and influencing policy so that prices are moved towards where they should be.

4.1 UK food prices compared with other countries

A first price comparator is to compare food prices in the UK with those in other regions. Table 1 shows comparative FAO data for 2013 for a calculated "Food Price Level": the greater the food price level, the higher the prices.

Food prices in the UK fall below the world average and those of developing regions but they are slightly above those of the developed regions of the world. Within the EU (see Table 2), the Netherlands and Ireland have the lowest food prices. The UK

ranks 14th equal with Austria: it is mainly east European countries and small island states that have prices above the levels of the UK.

Interestingly, on this index, the leading four countries in terms of low food prices (Netherlands, Ireland, Portugal and France) did not experience the price hike observed in some countries, including the UK, between 2007 and 2008. It was the UK's rise in food price level from 1.12 in 2007 to 1.15 in 2008 and 1.20 in 2009 that has in part led to its current ranking midway down the list of EU member states (see reference 14 for historical data).

Table 1: Food price levels globally 2013

Geographic area	Food price level[4]
World	1.33
Sub Saharan Africa	1.97
Asia	1.72
Latin America and the Caribbean	1.53
Oceania	1.39
Developed regions	1.17
United Kingdom	**1.20**

Source: FAO Food Security Indicators (14)

Table 2: Comparison of food price level in the UK with other EU states (2013 data unless otherwise specified)

Rank	Member state	Food Price level	Rank	Member state	Food Price level
1	Netherlands	0.89	**14=**	**UK**	**1.20**
2	Ireland	0.99	16	Czech Republic	1.21
3	Portugal	1.05	17	Cyprus	1.27
4	France	1.06	18	Poland	1.29
5	Spain	1.07	19	Bulgaria[5]	1.34
6=	Germany	1.10	20	Latvia	1.35
6=	Greece	1.10	21	Slovakia	1.37
6=	Luxembourg	1.10	22	Slovenia	1.40
9	Belgium	1.12	23	Romania	1.41
10	Denmark	1.13	24	Malta	1.45
11	Sweden	1.14	25=	Estonia	1.46
12	Finland	1.15	25=	Hungary[6]	1.46
13	Italy	1.19	27	Croatia	1.48
14=	Austria	1.20	28	Lithuania	1.83

Source: FAO Food Security Indicators (15)

[4] The Domestic Food Price Level Index is calculated by dividing the Food Purchasing Power Parity (FPPP) by the General PPP, thus providing an index of the price of food in the country relative to the price of the generic consumption basket. Data are available for 2005 from the International Comparison Program (http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/ICPEXT/0,,contentMDK:22377119~menuPK:62002075~pagePK:60002244~piPK:62002388~theSitePK:270065,00.html). It is then extended to other years by adjusting both numerator and denominator using the relative changes in Food CPI and General CPI as provided by ILO.

[5] 2011

[6] 2012

4.2 Food as a percentage of household expenditure, over time and between countries

If food in the UK is currently gradually becoming more expensive, we may expect to see that it is taking a larger share of total household expenditure than in other countries and over time. Whilst total household expenditure has increased by 97% over the period 1997 to 2013, expenditure on food has grown by 78% reducing its share in overall household spending from 10% in 1997 to 8.5% in 2007 before reaching 9.3% in 2013. Food expenditure as a percentage of total household spending showed a consistent year on year decline from 1997 to 2007 since when, apart from 2009/10, this percentage has started to rise again (Table 3) to the current level of 9.3%. Even so, when compared with the 34% of incomes spent on food in 1946, a figure of 9.3% of total expenditure in 2013 might suggest that food really is not now expensive when viewed over the longer term.

Table 3: Total UK expenditure on food and non-alcoholic beverages as a percentage of total expenditure

Year	Total domestic expenditure £ million	Expenditure on food and non-alcoholic beverages[7] (£million)	Year on year change in expenditure on food and non-alcoholic beverages	Food and non-alcoholic beverages as a percentage of total domestic expenditure
1997	520613	53585		10.29%
1998	552137	55039	2.71%	9.97%
1999	583887	56678	2.98%	9.71%
2000	617948	58272	2.81%	9.43%
2001	643801	59790	2.61%	9.29%
2002	673087	61373	2.65%	9.12%
2003	706323	63175	2.94%	8.94%
2004	742928	65527	3.72%	8.82%
2005	782577	67895	3.61%	8.68%
2006	817450	70334	3.59%	8.60%
2007	861379	73372	4.32%	8.52%
2008	879207	78147	6.51%	8.89%
2009	867043	79851	2.18%	9.21%
2010	913001	82917	3.84%	9.08%
2011	947628	86599	4.44%	9.14%
2012	980513	90757	4.80%	9.26%
2013	1027300	95369	5.08%	9.28%

Source: ONS Consumer Trends Tables 0CN and 01CN (15)

When compared with other EU countries, the UK spends a relatively small amount on food – Peel's legacy from 1846 perhaps. Data compiled by Eurostat (16) (see Table 4) show that only Luxembourg has a smaller percentage share of expenditure on food at 8.3%[8] and after the UK lie Austria (10%) and Ireland (10.2%).

[7] "Food and non-alcoholic beverages" here includes **products purchased for consumption at home** (COICOP category 1 which combines categories **01.1 Food** (Bread and cereals, Meat Fish and seafood, Milk, cheese and eggs, Oils and fats, Fruit, Vegetables, Sugar, jam, honey, chocolate and confectionery and Food products not covered elsewhere) and **0.1.2 Non-alcoholic beverages** (Coffee, tea and cocoa and Mineral waters, soft drinks, fruit and vegetable juices)). Food sold for consumption outside of the home is classified under COICOP 11.1 Catering Services. See Annex 1 for data on this.

[8] And this may be caused by cross border movement into France, Belgium and Germany.

It is certainly true that the countries with a lower GDP per capita spend a greater proportion on food so the data are not fully comparable between countries but certainly the UK is on a similar level to Belgium and France on this measure and these nations spend a higher proportion of total expenditure on food.
Compared with history and with EU neighbours, UK food spend does not account for a large proportion of total expenditure. The resultant question is therefore whether, given consumers spend a relatively small amount on food in the UK, food prices are irrelevant whatever their level.

Table 4: Percentage of total consumer expenditure on food and non-alcoholic beverages[9] in the EU (2012[10])

EU Country	% share	Ranking	EU Country	% share	Ranking
Luxembourg	8.3	1	Malta	14.8	15
UK	**9.3**	**2**	Slovenia	14.9	16
Austria	10.0	3	Czech Republic	15.5	17
Ireland	10.2	4	Greece	16.2	18
Denmark	11.3	5	Slovakia	17.5	19
Germany	11.7	6	Hungary	17.6	20
Netherlands	12.0	7	Portugal	18.2	21
Sweden	12.1	8	Poland	18.5	22
Finland	12.5	9	Estonia	19.0	23
Cyprus	13.4	10	Latvia	19.2	24
Belgium	13.6	11	Bulgaria	19.7	25
France	13.7	12	Lithuania	25.4	26
Spain	14.2	13	Romania	27.5	27
Italy	14.4	14	Croatia	n/a	

Source: Eurostat (16)

4.3 UK food prices over time

Table 5 shows the consumer price index for food and beverages rising from a base of 100 in 2005 to 143.9 in 2013. Alone, such an increase is concerning but when compared with the CPI for all goods, the extent of the problem is even more evident. The latter shows an increase over the same period of 26.1 index points. Food and drink prices have certainly risen at a rate above that of the average for all goods.

Food prices continued to rise into February 2014 peaking at 146.5 on a 2005=100 base. Recent months have seen a slight decline taking food prices on this index back to the level of June 2013. However, the consumer price index for all goods continues to rise: 126.1 for 2013, increasing (excluding the month of May) with monthly increments to 128.3 in June 2014. Maybe food prices have peaked, in the short term at least, but overall consumers are no better off given prices for all goods have increased by 1.9% in the year to June 2014.

Within the food price series, prices for individual food groups have fared differently (see Table 6). Prices for perceived "healthy foods", the fruit and vegetable groups, have risen more or less in line with those of all foods. Fish, oils and fats and sugary foods have increased at a faster rate whilst the "Other food" group, including soup, various sauces (e.g. tomato ketchup and mayonnaise) and ready cooked meals has shown a modest price increase well below that of the average across all foods.

[9] COICOP category 1: Food and non-alcoholic beverages
[10] Except for Bulgaria and Greece (2011), Lithuania (2009) and Romania (2010)

It could be that as food prices rise overall, consumers change their diets to encompass more of those foods for which prices have increased less. This has implications for health when those foods include ready cooked meals which may be higher in calorific content and lower in nutritional value than those foods showing steeper price increases.

Table 5: Consumer price index for food vs. all goods

Year	Consumer Price Index for Food and non-alcoholic beverages[11]	Consumer Price Index for all goods
2005	100.0	100.0
2006	102.5	102.3
2007	107.1	104.7
2008	116.8	108.5
2009	123.2	110.8
2010	127.4	114.5
2011	134.3	119.6
2012	138.7	123.0
2013	143.9	126.1
Jan 2014	146.0	126.7
Feb 2014	146.5	127.4
March 2014	145.9	127.7
April 2014	145.1	128.1
May 2014	143.3	128.0
June 2014	143.4	128.3

Source: ONS, Consumer Price Indices (17)

Table 6: Consumer price index for food groups (2005=100)

	All Food	Bread and cereals	Meat	Fish	Milk, cheese and eggs	Oils and fats	Fruit	Vegetables	Sugar, confectionery and ice-cream	Other food
2005	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2006	102.3	101.9	101.9	107.9	101.4	105.1	100.8	102.2	103.7	99.2
2007	107	106.2	103.9	117	108.3	111.9	102.2	111.2	107.4	100.7
2008	117.7	118.5	114.9	122.8	124.7	131.1	109	120.8	115.1	106.3
2009	124.3	124.1	122.4	127.3	129.9	131.3	114.2	128.5	123.2	114.9
2010	128.1	126.7	123.6	135.7	130.2	140.1	123.2	132.2	130.1	115.7
2011	134.5	134.9	130.2	148.2	133.6	156.6	127.8	136.7	139.9	119.4
2012	138.7	137.9	135.1	153.5	134.8	160.3	130	141.1	146.9	125.4
2013	144.3	143.3	140.3	158.5	136.2	164.9	141.2	149.9	151.3	128.9

Source: ONS Consumer Price Indices (17)

[11] This is the CPI for food and non-alcoholic beverages bought for consumption at home (COICOP 1). The CPI for Food (not including non-alcoholic beverages)(COICOP 01.1) reached 144.3 in 2013. The CPI for catering Services (COICOP 11.1)(i.e. food consumed outside of the home) reached 130.7 in 2013 (2005=100) although this does include sales of alcohol in restaurants and cafes and canteens.

4.4 UK food prices relative to incomes

Engels Law does state that the percentage of expenditure on food as a proportion of total spend declines as income rises. There is only so much that people can eat. This principle is demonstrated in Table 7 that shows the percentage of expenditure on food by gross income decile. Taking out the very poorest 10 percent of society, expenditure on food as a proportion of total expenditure falls consistently across the income groups in all three years presented. It is expected that those in the lowest income groups are therefore the most affected by food price rises. Those in the second income decile with the lower boundary of income per week of £170 in 2012 spent almost 17% of their total expenditure on food. This compares with only 8% of expenditure for the top earners where the lower income boundary per week stood at £1,397 in 2012.

Between 2002/03 and 2008 spending on food as a proportion of total expenditure rose for most groups and a similar situation arose in the 2008-2012 period. With a progressively greater proportion of expenditure on food, there is less income available for other items which may partly explain the "heat or eat" debate.

As total expenditure increases over the period for all groups, the expectation would be that the percentage of expenditure on food would remain constant or even fall. The increases in percentages of expenditure on food must then be explained by higher food prices.

This evidence suggests that even if prices started off low, they have certainly been on the rise in the last ten years when compared with incomes and expenditure. Whether or not they were previously or continue to be low, what matters is that certain income groups are disproportionately affected by price change.

Table 7: Percentage of household expenditure on food and non-alcoholic beverages[12] as a % of total household expenditure

		2002-03		2008		2012	
		Total expenditure (£/week)	% of total spend on food	Total expenditure (£/week)	% of total spend on food	Total expenditure (£/week)	% of total spend on food
Decile group	First	135.6	15.7	153.7	17.2	189.3	15.4
	Second	169.4	16.4	200.0	16.5	220.9	16.8
	Third	219.4	15.7	257.1	14.7	287.6	15.3
	Fourth	295.2	12.3	330.1	13.2	362.1	13.1
	Fifth	335.0	12.0	393.0	12.7	422.6	13.0
	Sixth	400.4	10.7	459.2	11.3	477.9	12.4
	Seventh	455.9	10.7	536.7	10.3	528.5	12.0
	Eighth	534.1	9.7	625.7	10.1	628.2	11.4
	Ninth	634.2	9.0	710.4	9.3	707.1	10.2
	Tenth	883.4	7.6	1044.9	7.6	1065.6	8.3

Source: ONS, Family Spending 2013, and 2009 and 2004 Table A4 (18)

4.5 UK price levels measured by consumption impact

[12] Includes food and drink bought for consumption in the home. Data for food eaten out of the home is aggregated with accommodation spend in hotels (COICOP classification 11: Restaurants and hotels) in this publication and so not included in this table.

If prices for certain foods rise, depending on the price elasticities, it might be expected that demand for those food products will fall and consumers either eat less or substitute in other food products. The statistics for the prevalence of overweight and obesity in England and Scotland (19) shown in Table 8 do not support the former theory at a national level.

The latter theory that at an aggregate level consumers are substituting in less healthy foods seems a more reasonable argument supported by the finding of Drewnowski and Eichelsdoerfer (21) that, "Obesity-promoting foods are – in a word – cheap, whereas foods that may stem the obesity epidemic are likely to be more expensive". This would support the argument that food prices in the UK are rising, leading to difficult food choices being made and some disaggregation of foods into those which are "cheap" and those which are not. Dowler (22) alludes to poorer groups in society having insufficient money to meet basic needs, including food, and yet still managing to avoid hunger. Strategies include skills in budgeting and managing limited resources, acceptance of monotonous diets and the "probability of having to rely on very cheap food that is unlikely to contribute to a healthy dietary intake" (22 22, p. 292). The success of low income groups in juggling competing financial demands is not grounds for policy-makers to think all is well about food affordability.

Table 8: Prevalence of overweight and obesity in England and Scotland for males and females (aged 16+) 2012

2012 estimated prevalence (%)	Males	Females
England		
Overweight	42.2	32.1
Obesity	24.4	25.1
Scotland		
Overweight	41.6	32.9
Obesity	24.6	24.3

Source: World Obesity Federation[13], (19)

However, more recent research (23) using ONS data suggests that the obesity problem does not stem from food alone. This research suggests that there has been a decline in the total calories purchased in the UK since 1980, which has led many food industry advocates to argue that any weight gain is caused by changes in lifestyle, with a faster reduction in activity levels than in calories consumed over the period. Critics counter that there is under-reporting of food and drink taken out of the home in the modern 'grazing' culture.

This is a complex area. Normal responses to higher prices are not being observed due to the range of food options available. Food pricing to address current health problems may certainly be a rich area for further research.

4.6 UK food prices as defined by consumer response

A recent Food Standards Agency publication (1) shows that 51% of respondents to a survey undertaken in May 2014 gave food prices as a current issue of concern, the most frequently cited of a range of food issues and more of a concern than quantities of salt, sugar and fat in food and the degree of food waste.

There are clearly many factors that determine the consumer's reaction to changing food prices. Whilst economists tend to make the "cet par and vice versa"

[13] The WHO also shows the increasing prevalence of these diseases in the UK at least over the 2002-2010 period (20).

assumption, i.e. holding all other things constant, in a free economy very little is held constant in reality. If the price of one food good rises, with an inelastic demand it would be expected that demand would change by a smaller proportion than the change in price. However, other things change too. Incomes change, the price of substitutes and complements change, tastes change. Consumers not only move along demand curves in response to price changes but they move between demand curves. This makes it difficult to use consumer response as a guide to determine whether food prices are "cheap".

Observation of consumer behaviour is interesting in giving some insight into likely consumer reactions and is sometimes used as evidence that prices have risen. A recent Which? report found 78% of shoppers worried about the increasing cost of food, 89% noticing an increase in food prices in the last 12 months to 2013 and 41% responding that the cost of food is a source of stress.(24) Shoppers are increasingly buying lower priced groceries from the same supermarket as used previously, shopping around to get the best prices for food, shopping at discount supermarkets and buying more groceries from cheaper supermarkets than those used previously. 68% of respondents reported that the current economic climate has made price more important to them when shopping for food in the supermarket.

Such evidence confirms that UK food prices are rising but does not define them as no longer being cheap. What is affordable food? Maybe it is necessary to compare retail prices with prices along the supply chain in order to find a true comparator.

4.7 UK food prices in relation to costs of production

The final price comparator considered here is retail price related to costs of production. If food is cheap to the consumer, this might be defined as a price that accurately reflects, or even falls below, the costs of production and processing along the food supply chain. Unfortunately such data is difficult to locate. Filling such an information gap might go some way toward helping consumers to realise the true costs of food production.

There is data available for farm produce but not for processed foods. The Competition Commission (25) shows that for dessert apples, pears and strawberries, growers take a share of just over 25% of the retail price, down from 35% in 1996. For milk, in 2006 the price per litre is split between producer, processor and retailer on a basis of 35%: 33%: 30%. Here the farmer fares better.

DairyCo (26) publishes gross margin data for mild and mature Cheddar. For mature Cheddar, the farm gate price of milk was 28.4 pence per litre in 2012/13 and the retail price was 65.6 pence per litre (equivalent). Retailers received a 48% gross margin. Maybe this is a true reflection of their costs. Looking at pig production, net margins (price per kg) have been negative for 8 out of the 10 years to 2012. BPEX (27) calculates that in 2011, pig farmers were making a loss of more than £21 on every pig produced. For 2012/13, net margins for all forms of production system for beef and sheep are negative (28). These are not helped by rising feed prices and demonstrate the vulnerability of UK farm production to price fluctuations on world markets. Economic costs further up the chain as well as costs to the environment of food production also need to be taken into account (29).

Without further information on the costs of intermediaries along supply chains, it is difficult to comment on whether food is fairly priced on the basis of production costs. Further transparency on the gains to individual chain participants may ease any burden of rising food prices if such gains are shown to be fairly distributed and to reflect cost.

5. UK Food Prices: A Summary of the Evidence

The table below summarises the evidence presented above on UK food prices. Whilst the overall picture is one of increasing UK food prices after a long slow drop in relative terms, it is not easy to comment where prices lie on the low to high-priced continuum.

Table 9: Summary of evidence presented regarding the price of UK food

Prices compared to:	Conclusion
Rest of world	Slightly higher than other developed regions; midway down list of food price levels in EU.
% of household expenditure – over time	Only 9% of expenditure is on food in the UK which is very low compared with other developed economies, but this does not define food prices as low in absolute terms.
% of household expenditure – between countries	UK has low % of expenditure on food compared with other EU countries but again, does not define food prices as low. Psychologically this may devalue food for the consuming public.
Previous years	Food prices have risen in recent years at a faster rate than prices for all goods. So relatively food prices have become higher.
Incomes	Rising proportion of expenditure is on food which could be as a result of rising food prices. Also the food industry reports some 'trading-down'. This does not define food as low or high priced but some income groups are certainly more affected than others.
Consumption impact	There are well-documented diet-related health problems in the UK in which food prices play a part; this raises the intricacies of food pricing, and whether processed foods are cheap compared to healthier options. Food is not the only factor in non-communicable disease but is significant nonetheless.
Consumer response	Consumer behaviour is not simply a function of price. The price question is also a matter of values and the well-known matters of affordability, accessibility, availability etc.
Costs of production	Although general evidence on costs, prices and value-added along UK supply chains is provided by ONS and Defra, more specific data on different food retail categories is lacking and often withheld as 'commercially confidential'. Yet this is key to any understanding of where consumers' food spending actually goes.

Maybe this is irrelevant. Maybe the fact that food prices are rising is worrying enough in itself. Historically they are low but in relative terms they are recently turned higher. This is acknowledged by the Department for Food, Environment and Rural Affairs which states that UK food prices have risen by 12% in real terms since 2007, returning the cost of food relative to other goods to that in the 1990s (30).

The Institute of Fiscal Studies, too, has noted that real incomes (deflated by the CPI) have fallen by between 2% and 5% since 2010-2011 across the income distribution.(31) It is safe to conclude that households with reduced real incomes find it increasingly difficult to purchase food whatever its price.

6. Winners and losers on the food price continuum

The paper finishes by summarising the arguments on lower vs. higher food prices. These are presented in Table 10.

Table 10: Some consequences of lower vs. higher food prices

Beneficiaries of lower food prices
All consumers benefit financially: those on lower incomes where food takes a greater proportion of total household expenditure benefit more from lower food prices - as long as their incomes are not also lowered
Benefits of higher food prices
Lower food prices are not good if they come at the expense of quality. We only have to look at 2013 Horsegate to understand the implications of a demand for low priced food: corners are cut, standards of control and traceability are weakened, even giant food corporations were found not to know what was in foods they sold.
Lower food prices are not good if they lead to a high incidence of non-communicable disease. Even allowing for the importance of physical activity, diet still plays a significant role. The question arises as to how and whether prices might support health
Lower food prices are not good if they fail to provide an adequate return to primary producers further back along supply chains both in the UK and overseas. Input costs are rising globally. Food prices should fully reflect costs. Food prices also need to reflect a decent wage to food workers all along supply chains.
Lower food prices are not good if they fail to respect the environment.
Lower food prices can devalue food as a commodity in the eyes of the consumer. Food waste becomes less of an issue when prices are high; there is less food waste by consumers in developing countries than in affluent countries.

So, we have a dilemma: we need fairly priced food, especially for lower income groups and primary producers who receive least from the UK food supply chain (32). According to Defra, currently half the £196bn that UK consumers spend on food and drink goes to retailers and caterers, with £9.2 bn going to primary growers.(32) While 'follow the money' is a good rule for financial analysts, it might not fit food policy. It becomes increasingly true that the pursuit of lower food prices is simply not in line with the pressing objective of making the food system more sustainable. Affordability and sustainability need more careful attention from researchers and policy-makers alike.

This paper has highlighted the importance of social values in food prices. Compared to 70 years ago, prices are low in the UK, but compared to seven years ago, particularly for people on lower rather than higher incomes, they are higher. More importance needs to be given in the policy discussion to particular interest groups and to where the money flows that consumers spend. The paper has raised a number of discussion points on which the Food Research Collaboration would welcome further input from academics and civil society organisations:

- How to ensure that high quality health-enhancing diets are affordable to all. The UK food system should not 'trade off' sustainability or health for 'cheapness'.
- The need for more transparency in food supply chains. Without knowing the true cost of food production, consumers are not able to value what they eat at its full economic, environmental and social cost. It may be that farmers are not adequately compensated for their labour input or to enable or encourage, for example, high animal welfare standards on-farm. Labourers at all stages of supply chains right through to food vendors need a fair return. Consumers are only able to make informed choices if the information is available.

- The prospect of higher prices – fully to internalise externalised costs - has considerable political implications for all consumers but particularly for those on low incomes. This paper has not explored this specifically but it should be noted that this needs careful discussion and consideration. It is a politically sensitive issue, and long has been. There are a number of broad policy options, two of which can be highlighted. The first is to retain the public policy goal of 'cheap food'. We think this is already being undermined by the reality of slowly rising prices in real terms (up 16% since 2008), so is actually being undermined, but it could be reasserted again. The second option is to raise incomes of people on low incomes sufficient to afford the higher food prices. Again, this raises wider policy issues. It should be noted that low income earners have seen significant drops in their incomes in recent years at the same time as welfare has received cuts.

- The fact that food expenditure cannot be looked at in isolation from total household expenditure. Consumers adjust their eating patterns to fit with overall budgets. Other expenditure items also need to be considered.

- A question keeps bubbling up about the value of food. While it can be argued that food has become too small a proportion of total household expenditure, this has enabled more money to be spent on other things. Yet the bill for the 'cheap food' policy is now paid for by healthcare and eco-systems. So is a fundamental revaluation now needed? And is that perhaps beginning to emerge, albeit unequally? The hard truth is that the world food system is already undergoing change, to which even relatively affluent Britain will have to adapt. This means food is unlikely to be priced at levels prevalent in the past. If this does happen, some sectors of UK society will struggle even more. Isolating food expenditure in real terms and in terms of its share of household expenditure ignores the budget constraints that households face when dividing a limited income between household needs. Rather than a focus on food taking an increased share of household expenditure, maybe the focus needs to shift to other items taking a reduced share. How could this be achieved? To prepare for this, do we need to start working on a new sustainable diet price index – to enable policy-makers to keep track of the cost of diets that are good for both health and environment?

One thing is certain, although there are many in the food sector who would like sensitivities about food prices and affordability to subside, or who think market forces will resolve the matter, the issue is unlikely to fade away. Fundamental pressures in, on and across the UK food system continue to emerge which will keep the issue of food prices bubbling rather than cooling, we suspect.

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Food Research Collaboration

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