

What is Food Poverty? A Conceptual Framework

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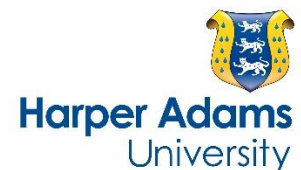
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Author's accepted manuscript published by Emerald in the *British Food Journal*

DOI: 10.1108/BFJ-06-2015-0222

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O'Connor, N., Farag, K and Baines, R. 2016. What is Food Poverty? A Conceptual Framework. *British Food Journal*, 118 (2), pp.429-449.



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Journal:	<i>British Food Journal</i>
Manuscript ID:	Draft
Manuscript Type:	General Review
Keywords:	food poverty, food security, food policy

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1 Introduction

As an issue which has seen increased recognition in recent years, food poverty within the United Kingdom (UK) has been subject to public, private and governmental interest. Loopstra & Tarasuk (2013, p.1316) stated that “household food insecurity is increasingly being recognised as a serious public health problem in high income countries”. A high level of inflation on essential goods and services, coupled with lower disposable income has increased pressure upon households in achieving an adequate diet. Meanwhile the use of food banks has escalated with all regions affected; consumers have expressed apprehension about food affordability and have petitioned for the issue to be debated in the House of Commons (HC Deb, 2013). Businesses and charities such as Kellogg’s, Tesco, Oxfam and Red Cross, have identified the problem and responded proactively by engaging in research, providing support and partnering with food distribution schemes. With these concerns in place, the government has instigated investigations through groups such as; the All Party Parliamentary Group (APPG) and the Department for Environment, Food and Rural Affairs (DEFRA).

Dowler & O Connor (2012) considered food poverty from a rights based perspective, in the role of the government and food systems in the provision and security of adequate food for a nutritionally satisfactory diet. By providing a strong emphasis upon UN agreements for health and nutrition, it was made evident that the government holds responsibility in ensuring that the UK population achieve an equal ability in achieving an adequate diet, particularly in the circumstance where individuals are unable to meet this need. The question of whether this is currently

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3 26 satisfactory was raised, particularly as national intervention is argued to be less
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5 27 effective than that of local or targeted practices. De Schutter (2009) shared this view
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7 28 stating that “Save in situations of natural disasters or civil strife, the right to food is
8
9 29 not the right to be fed; it is the right to feed oneself in dignity’. This has occurred
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11 30 within the UK wherein changes to purchasing behaviour saw households substitute
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13 31 products for lower quality, less nutritious goods which were more calories dense
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16 32 (Griffith, et al., 2013a).

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19 33 The purpose of this study is to improve understanding of food poverty within the UK
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21 34 through a meticulous examination and synthesis of the dimensions of existing
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23 35 literature in order to provide scope for further research. To achieve this, the review
24
25 36 initially develops a comprehensive definition of food poverty and then utilises this to
26
27 37 investigate UK food poverty within an international context. A discussion of both
28
29 38 points provided an overall insight of the issue, wherein a UK specific definition
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31 39 supports examination of the development of food poverty and how it is currently
32
33 40 understood. The comparable international exploration of food poverty furthers the
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35 41 definition on a global scale and contextualises the situation in the UK against that of
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37 42 other countries by highlighting similarities and differences.

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44 **2 Review Strategy**

45 An exploratory approach utilising secondary research was conducted to assemble
46
47 46 sufficient information to ensure an extensive examination, consisting of several
48
49 47 sources inclusive of academia, government, and non-governmental organisations.
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51 48 The literature was screened for relevance following a broad search which primarily
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53 49 focused upon UK publications, with the exception of national data relevant to
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2
3 50 specified countries of USA, Canada, Yemen and United Republic of Tanzania
4
5 51 (Tanzania). Key literature included national economic data consisting of the
6
7 52 consumer price index (CPI) to represent national inflation of goods and services.
8
9 53 Additionally studies conducted on behalf of government such as: Lambie Mumford,
10
11 54 et al (2014), APPG (2014) are highly relevant to this topic given the scope of the
12
13 55 studies, relevance to the UK and their timeliness, it is also demonstrative of the rising
14
15 56 interest in food poverty by the government. Prior to this, much of the available
16
17 57 literature was produced independently by charitable organisations (e.g. Trussell
18
19 58 Trust and Oxfam), some of these studies have been incorporated despite a lack of
20
21 59 subjection to a peer review process, as they were produced by reliable
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23 60 organisations.
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28 61 Timeliness was a crucial factor in the construction of this paper, given the extent of
29
30 62 studies conducted in recent years which has increased knowledge of food security
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32 63 and food poverty issues, also given the propensity for change due to economic and
33
34 64 national circumstances. As a result of this, 64% of literatures utilised were published
35
36 65 between 2013-2014, with 8% published prior to 2005. The parameters of this review
37
38 66 were restricted given the breadth of the subject matter, which limited alternative
39
40 67 discussion points, including individual knowledge and capabilities, physical access
41
42 68 and perceived availability, consumer attitudes, causal linkages with social welfare
43
44 69 and sanctions and dietary health needs. These limitations were imposed to enabled
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46 70 a broader discussion of the subject and illustrates the role in which a comprehensive
47
48 71 definition can be utilised to encompass the constituents of food poverty.
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3 Defining Food Poverty

Maslen, et al. (2013) discussed that the definition of UK food poverty developed over time as understanding advanced and yet there remains no consensus for a standard definition, an impediment for the comprehension and conceptualisation of the issue. This disunity is problematic for several reasons including: as an obstacle in academic and political examination, difficulty in ascertaining the quantity or characteristics of individuals classified as such and constraints in addressing related demands.

A number of widely utilised definitions were examined to distinguish areas of weakness and compatibility and to enable creation of an appropriate definition. These definitions display similarities between food poverty and food security in the corresponding principles to the pillars of food security: access, availability, utilisation and stability. It is important to note that food insecurity can exist without food poverty as a contributing influence however food poverty cannot exist without food insecurity, as illustrated by figure 1. Furthermore it is possible for food insecurity to develop as a result of pressures to an individual pillar, while food poverty is driven by a combination of the pillars. The distinction for food poverty can be identified wherein economic access is the predominant component, although it is not the sole characterising element. This is supported by APPG (2014) who identified the key drivers as: unemployment, debt and reliance on social welfare, in addition to other causes such as: access to information and poor skills. Furthermore Coe (2013, p.332) stated that “food poverty does not simply occur due to a lack of money but also develops as a result of a number of other factors, such as a lack of knowledge, skills or equipment to prepare healthy foods”. The positioning of food poverty within food insecurity is attributed to the role of the individual pillars wherein economic

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3 98 access was determined to be the predominant influence and availability of goods the
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5 99 lowest impact.
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10 101 **Placement of Figure 1 Relationship between food poverty and food security**

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14 103 The relationship between food poverty and food insecurity can be identified through
15
16 104 the similarities in definition of these terms. Food security is defined as "...when all
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18 105 people, at all times, have physical and economic access to sufficient, safe and
19
20 106 nutritious food to meet their dietary needs and food preferences for an active and
21
22 107 healthy life (FAO,1996). This definition was expanded by FAO (2002) to incorporate
23
24 108 social access, acknowledging its vital role within the concept. Due to a lack of
25
26 109 consensus for a food poverty definition, a range of definitions utilised in the UK were
27
28 110 investigated to identify and illustrate the diversity of terminology, definitions identified
29
30 111 within Maslen, et al. (2013) were explored, in addition to definitions by authors
31
32 112 including; Anderson (1990), Moore (2012) and Food Ethics Council (2013). Food
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34 113 poverty is the inability;
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40 114 "...to afford, or to have access to, food to make up a healthy diet" (Department of
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42 115 Health, 2005, p.7)
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44

45 116 "...to access a nutritionally adequate diet and the related impacts on health, culture
46
47 117 and social participation" (Friel & Conlon, 2004, p.120)
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49

50 118 "... of individuals and households to obtain an adequate and nutritious diet, often
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52 119 because they cannot afford healthy food or there is a lack of shops in their area that
53
54 120 are easy to reach" (Food Standards Agency, 2014)
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3 121 Furthermore while not specific to food poverty, a frequent term utilised to define food
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5 122 poverty is; “Hunger is the inability to acquire or consume an adequate quality or
6
7 123 sufficient quantity of food in socially acceptable ways, or the uncertainty that one will
8
9 124 be able to do so’ (Radimer, et al. 1992).

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11
12 125 The following common features were identified in the majority of the terminology;
13
14 126 economic access, quality, quantity, duration and social dimension. Based upon these
15
16 127 elements the proposed concise definition was constructed as; food poverty is the
17
18 128 insufficient economic access to an adequate quantity and quality of food to maintain
19
20 129 a nutritionally satisfactory and socially acceptable diet.

21 22 23 24 130 **3.1 Components of Food Poverty**

25 26 27 131 **3.1.1 Economic access**

28 132 As previously stated, this principle component is essential as income and price
29
30 133 determine the ability to procure food and governs the extent to which an individual
31
32 134 can achieve the additional elements, to obtain an adequate quantity and quality of
33
34 135 food for a nutritious diet, to ensure that this can be achieved immediately and for the
35
36 136 foreseeable future and the role of social attributes. Low income consumers place
37
38 137 price as a crucial determinant in food expenditure with other influences including
39
40 138 demographic, behavioural and lifestyle characteristics (Burns, et al. 2013 and Lee, et
41
42 139 al. 2011).

43 44 45 46 140 **3.1.2 Adequate quality**

47 141 Food should be nutritionally satisfactory without being inferior in terms of production,
48
49 142 manufacturing or preparation. Products targeted at low income consumers can be
50
51 143 substandard comparatively, both in nutrition and condition with Dowler & O Connor
52
53 144 (2012) arguing that food poverty had advanced from insufficient economic access to
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55 145 nutritionally poor food choices, as “cheap” food targeted toward low income
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3 146 consumers can be high in fat, sugar and salt (Dowler, 2008). It has been found that
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5 147 consumers altered expenditure towards products with higher calorie content and fail
6
7 148 to meet dietary recommendation, particularly relating to fruit and vegetable
8
9 149 consumption (DEFRA, 2013). Price can be an impediment to achieving a healthy
10
11 150 diet, however it is conceivable to acquire nutritional sound goods within a lower
12
13 151 budget, as demonstrated by Cooper & Nelson (2003) where six basic products were
14
15 152 evaluated and found to have higher nutritional value than premium counterparts.
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19 153 **3.1.3 Adequate quantity**

20 154 Multiple studies have established that many consumers cut back on food purchases
21
22 155 and skipped meals as a result of inadequate income (Cooper & Dumpleton, 2013
23
24 156 and McHardy, 2013). It is believed that 36% of retired households cut back on food
25
26 157 purchases and 1 in 5 mothers regularly skipped meals to ensure their children could
27
28 158 eat (Cooper & Dumpleton, 2013). Increased cost of food has impacted upon
29
30 159 purchasing behaviour where consumers between 2007-2012 purchased 7% less
31
32 160 food, despite a rise in food expenditure of approximately 20% (Cooper & Dumpleton,
33
34 161 2013). Regardless of sufficient quality, an adequate volume is required to achieve an
35
36 162 appropriate diet.
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41 163 **3.1.4 Duration**

42 164 The classification of Food insecurity as chronic or transitory affects the causes, risks,
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44 165 and solutions and was exemplified through food aid provision where the users of
45
46 166 food banks in the UK were identified primarily as experiencing a transitory difficulty,
47
48 167 whereby there was a short term, temporary need (Sosenko, et al. 2013). Alternative
49
50 168 services such as free school meals and soup kitchens offer continual assistance,
51
52 169 providing aid to chronic food insecurity sufferers. The duration and severity of an
53
54 170 insufficient diet can impact health as expressed by Martin & Lippert (2012) who
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56 171 contested that low food security is related to being overweight, whereas very low
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3 172 food security is related to being underweight. This is concerning given the increase
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5 173 in malnutrition of 19% between 2013-2014 and estimates that 25% of population was
6
7 174 obese in 2012 (Faculty of Public Health, 2014 and OECD, 2014).
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10 175 **3.1.5 Social dimension**

11 176 A difference between existing definitions is whether social acceptability is a criterion
12
13 177 for inclusion, as several authors excluded the term. It is well established that food
14
15 178 serves a purpose beyond nutrition, satisfying emotional, social and cultural needs.
16
17 179 Social acceptability is central to food purchasing behaviour as "...the urban food
18
19 180 environment shapes and reinforces social stratification" Cannuscio, et al. (2014,
20
21 181 pp.18). Burns, et al. (2013) investigated the role of social acceptability within food
22
23 182 purchasing behaviour among low income households and found that these decisions
24
25 183 were motivated by four goals, to obtain sufficient food to satiate hunger, to acquire
26
27 184 desired food products, to gain adequate food when money ran out and to gather food
28
29 185 with positive emotional connection. Additionally it was identified that comfort food
30
31 186 was purchased regardless of whether sufficient income was available for other
32
33 187 expenditure. This is supported by Lee, et al. (2011) who reviewed multiple studies to
34
35 188 surmise that additional factors in food purchasing include ethnic background,
36
37 189 convenience, habit and body image. Furthermore education and skills can
38
39 190 contribute towards risk factors as a higher education level is associated with better
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41 191 diet—while the reduction of at home cooking has negatively impacted the
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43 192 intergenerational transmission of these skills meals (Smith, et al., 2014 and Ricciuto,
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45 193 et al., 2006).
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53 194 **4 Food Poverty: International Perspectives**

54 195 Between 2005- 2008, global food prices rose by 83% with basic agricultural
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56 196 commodity prices such as wheat, rice, corn and soybean achieving record highs
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3 197 (UN, 2011 and Mittal, 2009). A study conducted by Seale, et al. (2003) of 114
4
5 198 countries found that low income countries were approximately twice as responsive to
6
7 199 changes to food prices as middle or high income countries. Nord, et al. (2014) stated
8
9 200 that an increase in the relative price of food compared to CPI of 1% was associated
10
11 201 with 0.6% increase in prevalence of food insecurity. Organisation for Economic Co-
12
13 202 operation and Development (OECD) countries were found to experience significantly
14
15 203 lower inflation, with a peak of 7% in 2008, compared with 23% in Africa (Economist,
16
17 204 2014). This is illustrated by the range of volatility experienced by the countries
18
19 205 examined, with the exception of the USA where data was unavailable, as shown in
20
21 206 table 1. Conversely, volatility in the UK exceeded that of Tanzania at several
22
23 207 conjectures, demonstrating the extent of volatility which impacted the UK.
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31 **Placement of Table 1 Annual domestic food price volatility index (FAO, 2014a)**
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35 211 Net food consumers in developing countries spend a large percentage of
36
37 212 expenditure on food, estimated between 60-80%, contrasted with 10-20% in wealthy
38
39 213 countries (UNCTAD, 2008). Within urban areas in developing countries, there are
40
41 214 fewer food producers, and households are reliant upon market systems to access
42
43 215 food, leaving them susceptible to the price volatility (Tacoli, et al., 2013 and Mittal,
44
45 216 2009).
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49 217 As a result of the food price spike, poverty rates measured as US\$1p/day increased
50
51 218 by 4.5% in low income countries (Ivanic & Martin, 2008). This is supported by Wodon
52
53 219 & Zaman (2009) who found that higher prevalence of poverty in Sub Saharan Africa
54
55 220 was attributable to the negative effect of inflation on consumer purchasing power.
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3 221 Internationally it is estimated that 68million additional individuals fell below the
4
5 222 poverty line as a direct consequence of rising food prices in 2007-08 (World Bank,
6
7 223 2011). In 2012, 28.2% of Tanzania were classified as below the national poverty
8
9 224 line, with 43.5% had an income lower than \$1.25 a day and 73% below \$2per day
10
11 225 (World bank, 2014), The food price spike of 2007-08 increased poverty levels in
12
13 226 Yemen by 44%, with 45% of the population below the poverty line (UNICEF & WFP,
14
15 227 2014). Extreme poverty is less prevalent in developed countries, given higher levels
16
17 228 of household income; however relative poverty remained comparatively stable. In
18
19 229 2013, 14.5% of American and 11.9% of Canadian population were classified as
20
21 230 experiencing relative poverty, in comparison to 15% of the UK population BHC
22
23 231 (DeNavas-Walt & Proctor, 2014 and OECD, 2014).

24
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27
28 232 An inability to afford food increases susceptibility to health risks due to an
29
30 233 inadequate diet, such as malnutrition, nutrition deficiencies and stunting (Tacoli, et
31
32 234 al., 2013 and UN, 2011). Internationally 805million individuals were estimated to be
33
34 235 chronically undernourished in 2012-2014, the majority of whom are resident in
35
36 236 developing countries, approximately 790.7million individuals, the remaining 15
37
38 237 million individuals are in developed countries (Food and Agriculture Organisation
39
40 238 (FAO), 2014b). Despite food insecurity pressures overall the volume of individuals
41
42 239 reported as malnourished internationally has reduced from 18.7% in 1990/92 to
43
44 240 11.3% in 2012/14.

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49 241 Economic accessibility of food is vital to national security and insufficient access can
50
51 242 result in extreme reactions, as demonstrated by the food price riots of 2007-2008
52
53 243 where many countries experienced civil unrest and violent protests (Berazneva &
54
55 244 Lee, 2013). there were a number of underpinning circumstances which contributed
56
57 245 towards the food riots of 2007-08, which were explored by Berazneva & Lee (2013),
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1
2
3 246 whereby causal linkages were found between the likelihood to participate in food riots
4
5 247 and economic, demographic and political elements related to poverty, urbanization,
6
7 248 oppressive political structures, and higher civil liberties in addition to coastal location
8
9 249 and food availability and access.

12 250 **4.1 Case Studies: Developing Countries**

13 251 Tanzania was ranked as 159 of 187 countries in 2014 UNDP human development
14
15
16 252 index, due to the extent of poverty and deprivation, with 19% of the population living
17
18 253 below the food poverty line in 2007 and 43% of households not consuming enough
19
20 254 calories in 2010-11 World Food Programme (WFP) (2013). Comparatively, Yemen
21
22
23 255 was graded as 154 but was the 8th most food insecure country in the world (Von
24
25 256 Grebmer, et al., 2014) with 10.6 million individuals, 41% of the population food
26
27 257 insecure in 2014 (UNICEF & WFP, 2014). Attributable to food security risks relating
28
29 258 to socioeconomic problems aggravated by 07-08 price spike and 2011 politic crisis,
30
31 259 in addition to resource depletion and environmental threats (UNICEF & WFP, 2014).
32
33
34 260 While the causes of food insecurity in Tanzania are inclusive of drought, high food
35
36 261 and oil prices, insufficient infrastructure, seasonal shortages and lack of dietary
37
38 262 diversity. Both countries recorded high levels of chronic and acute health concerns
39
40 263 relating to malnutrition, stunting and dietary deficiencies, in Yemen, 46.6% of
41
42 264 children were stunted or chronically malnourished (SOFI, 2014), with just 12.4%
43
44 265 meeting WHO's dietary diversity recommendations (UNICEF & WFP, 2014). In
45
46 266 Tanzania 34.6% of children were malnourished between 2012-2014 (FAO, 2014b).

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50 267 Food price inflation is above that of average inflation rates, and significantly higher
51
52 268 than that in developed countries. Given that a higher percentage of expenditure in
53
54 269 these areas is attributable to food purchases, any increase in prices can create
55
56 270 reduction in affordability. High inflation contributed towards diminished food security

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3 271 in both countries, with food prices in Tanzania volatile and consistently above
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5 272 inflation rates with both countries experiencing a significant increase, although
6
7 273 political unrest in Yemen contributed to the sharp incline in 2011, as shown in figures
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10 274 2 and 3.

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15 276 **Placement of Figure 2 CPI in Tanzania, 2010= 100. (derived from National Bureau of Statistics, 2014)**

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17 277

18
19 278 **Placement of Figure 3 CPI in Yemen, 2008=100. (derived from Central Statistical Organisation, 2014;**
20 279 **Central Statistical Organisation, 2010)**

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23
24
25 281 It is evident that both countries were subject to poor government coping strategies,
26
27 282 and as such were reliant on external aid. More than half the population of Yemen,
28
29 283 14.7million individuals relied on humanitarian assistance in 2014 according to the
30
31 284 Yemen humanitarian response plan, with approximately 6million individuals reached
32
33 285 through WFP's main programme (UNICEF & WFP, 2014). Less physical food aid is
34
35 286 provided to Tanzania where WFP supplies food approximately 1.6million individuals
36
37 287 through programmes such as food for education, food for assets and maternal and
38
39 288 child health programme. These countries have been experiencing severe food
40
41 289 security risks, of which food poverty, driven by reduced purchasing power and
42
43 290 inflation is one of many contributing elements.
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47 48 291 **4.2 Case Studies: Developed Countries**

49 292 In Canada, food insecurity has been consistently monitored and has shown a steady
50
51 293 increase from 2005. In 2012, approximately 13%, 4 million individuals were food
52
53 294 insecure (Tarasuk, et al., 2014). Similarly in America, food insecurity was found to
54
55 295 rise substantially between 2008- 2013, from 36.2 million in 2007 to 49.1million
56
57 296 (approximately 15%), with 6.8million recorded as in very low food insecurity
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3 297 (Coleman-Jensen, et al., 2014). However Weinfield, et al. (2014) argued that
4
5 298 17.6million were food insecure, which highlights the disparity in preferred
6
7 299 measurement systems.
8
9

10 300 Coping strategies for food shortages were similar between these countries, and differ
11
12 301 dependant on duration, with the most utilised options including delaying bills, rent
13
14 302 and selling possessions (Weinfield, et al., 2014 and Loopstra & Tarasuk, 2013b). In
15
16 303 America, it was found that 96% of respondents substituted products, while 88%
17
18 304 reduced the volume used, while 79% purchased unhealthy inexpensive food, 40%
19
20 305 watered down food and drink (Feeding America, 2012). Whereas in food insecure
21
22 306 households in Canada, 98.1% stated they had reduced portion size or skipped
23
24 307 meals, 83.1% relied on low cost food for children's meals (Tarasuk, et al., 2014).
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29 308 Additionally there are charitable and governmental services which provide aid to food
30
31 309 insecure households. Federally assisted programmes in America have an uptake of
32
33 310 approximately 60% amongst food insecure households of at least one programme.
34
35 311 In spite of this in 2012, 27% of the food insecure were ineligible for federal
36
37 312 assistance as household income was above the required criteria (Weinfield, et al.,
38
39 313 2014). Due to this, there is reliance upon alternate food assistance, of which there is
40
41 314 an extensive system that is partially supported by Feeding America, who provide
42
43 315 food for an estimated 46.5million individuals per year, equating to approximately
44
45 316 62% of national food aid distribution (Weinfield, et al., 2014). Comparatively a survey
46
47 317 of 4,743 food banks in Canada were found to assist 833,098 individuals in March
48
49 318 2013, an increase of 23% from March 2008 (Food Banks Canada, 2013), although
50
51 319 just ¼ of food insecure Canadians are believed to avail of this, due to preference or
52
53 320 inaccessibility. With food banks usually providing 5 days were of food to each
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55 321 individual, this is suggestive that approximately 3,500,000 meals were distributed.
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3 322 Additionally it was recorded that 4,341,659 meals were provided by other services
4
5 323 such as soup kitchens, breakfast clubs and shelters (Food Banks Canada, 2013).
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8 324 Volatile food prices contributed to reduced purchasing power, food prices exceeded
9
10 325 the average rate of inflation. Figures 4 and 5 show the difference in CPI for Canada
11
12 326 and USA, where the initial peak in food prices was experienced first by USA, both
13
14 327 countries saw a significant drop the subsequent years as reactive measures were
15
16 328 enacted.
17
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22 330 Placement of Figure 4 CPI Canada, 2002=100. (derived from Statistics Canada, 2014)
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26 332 Placement of Figure 5 CPI USA, 2005=100. (derived from Crawford & Church, 2014)
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31 334 **5 Food Poverty: UK**

32 335 From a historical perspective, in the UK gross disposable household income (GDHI)
33
34 336 was relatively high in 2013 yet in real terms from 2009, income had reduced to levels
35
36 337 of 2002-03 (Office of National Statistics (ONS), 2014a and Levy, 2013). Equivalised
37
38 338 income levels developed at different rates for socio economic groups, and in the
39
40 339 period 2007/08-2012/13 the greatest reduction in income was experienced by the top
41
42 340 quintile (5.2% reduction of £3300); comparatively the bottom quintile experienced an
43
44 341 increase of 3.5% (£400) (ONS, 2014a). There is an unequal distribution of income
45
46 342 between locations, as demonstrated by GDHI per person in 2012 in table 2 where
47
48 343 London the highest levels were recorded in London at 27.7% above the national
49
50 344 average, whereas the lowest income was found in Northern Ireland at 17.2% below
51
52 345 (ONS, 2014b).
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347 **Placement of Table 2 GDHI per head 2012, (data from ONS, 2014b)**

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349 Lee, et al. (2014) found that much of UK poverty is centralised to cities and that
350 areas with relatively low poverty rates, retain “concentrations of deprivation”, which
351 illustrates location based inequality. From 2008, individuals who had been suffering
352 from poverty have experienced greater levels of deprivation, while more people have
353 become increasingly vulnerable due to economic stagnation, increased living costs
354 and public service reductions (Oxfam, 2012 and Joseph Rowntree Foundation,
355 2013a). Following 2007; households have also been subjected to benefit cuts, lower
356 disposable income and unemployment, furthering financial pressures (Coe, 2013).

357 In 2012, 13 million people were estimated to be in relative poverty after housing
358 costs (figure 6) with 21% of the population were estimated to be in relative poverty in
359 2012/13 (Department Work and Pensions (DWP), 2012). Comparatively before
360 housing costs, relative poverty was recorded at a lower level (6% lower in 2012/13),
361 indicating that this fixed cost can increase vulnerability to poverty.

362

363 **Placement of Figure 6 Percentage of individuals in relative poverty. (data from ONS, 2014)**

364

365 In a study of multiple deprivation ONS (2013) identified that approximately 1/3 of the
366 population were unable to cope with unexpected financial expenses, however
367 Gordon, et al. (2013) stated that almost half the UK population are experiencing
368 financial insecurity, with 18million people unable to afford adequate housing
369 conditions and 4million improperly fed. There was a 10% increase in the percentage

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3 370 of the country unable to cope with unexpected financial costs from 2007-11 which
4
5 371 demonstrates a rise in households inability to adapt to shocks (table 3).
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8 372 **Placement of Table 3 Percentage of population unable to afford specific items 05-11. (data from DWP,**
9 373 **2012)**

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13 375 Increased inflation can exacerbate pressure on household budgets and CPI annual
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15 376 rate of inflation shows volatility within the previous decade, with peaks in 2008 and
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17 377 2011, comparable to international trends. Inflation was inconsistent across
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19 378 expenditure categories (figure 7) where overall between 2007-2014, CPI increased
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21 379 by 21.5% while food (35.9%), alcohol (43.9%) and housing & fuel (34.1%) all
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23 380 demonstrated significantly higher increases in price.
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30 382 **Placement of Figure 7 Difference in CPI 2007-2014. (data from ONS, 2014a)**

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34 384 It is important to note that food inflation regularly exceeded CPI for all items (figure 8)
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36 385 and that food prices in 2014 remained at similar levels to the previous year which
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38 386 contrasted to the volatility shown in the earlier stages. Within this category, all items
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40 387 increased in price from 28% for milk, egg and cheese to 47.8% for oils and fats, as
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42 388 shown in figure 9. Inflation affected all food goods and occurred at separate points
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44 389 during the 2007-2014 period. The greatest annual increase in price occurred in 2008,
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46 390 with highs of 17.2% for oils and fats and 15.1% for milk, egg and cheese.
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55 393 **Placement of Figure 8 CPI UK, 2006=100. (data from ONS, 2014a)**

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396 **Placement of Figure 9 Growth in CPI inflation 2007-14. (data from ONS, 2014a)**

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398 Food accounts for 17.5% of total household expenditure on average, succeeded by
399 fuel and housing. Increased inflation of this category affects available funding for
400 other expenditure categories (Griffith, et al., 2013a). Low income households are
401 particularly susceptible to food price increases as argued by Lang & Schoen (2014),
402 Revoredo-Giha, et al., (2009) and Downing, et al., (2014). A study of consumer
403 perception found that increased cost, particularly of food was a particular concern to
404 consumers with 37% of respondents stating that they were finding it difficult to afford
405 the variety of food they wanted, a figure which increased to 50% for households with
406 income below £14000 (Dowler, et al., 2011)

407 One change in consumer purchasing behaviour has been product substitution,
408 reflected in the growth of discount retailers such as Aldi and Lidl, where consumers
409 have elected to move from national brands towards cheaper products. Consumer
410 studies have found that as a result of “economic stagnation”, consumer behaviour
411 has altered, with lower levels of brand loyalty, with greater focus upon price (Lamey,
412 2014). As discount retailers offer a means to reduce food expenditure, they have
413 experienced growth as a result. Reduced purchasing power is linked to the growth of
414 both hard and soft discount retailers (Lamey, 2014). Grocery discount retailers grew
415 by 33.4% between 2008 and 2011 with 6.2% of grocery sales in 2014, with this trend
416 predicted to continue with sales estimations of 10.9% in 2019 while supermarket own
417 label products have grown by 9.3% annually (Institute of Grocery Distribution (IGD),
418 2014 & Keynote, 2013). This behaviour change illustrates that people are changing
419 where they shop, away from where they would normally go, driven partially by price.

6 Discussion

Through an examination of existing literatures on the subject, food poverty has been defined as the insufficient economic access to an adequate quantity and quality of food to maintain a nutritionally satisfactory, socially acceptable diet. This brief, comprehensive term encompasses five elements which are popularly utilised within the current knowledge of the issue, yet differentiates itself in several ways. First this definition was developed specific for UK application with an awareness of the influential role of household finance in meeting dietary requirements. Secondly, simple terminology was employed to enable multi level use and understanding. Thirdly, the role of a social dimension is recognised as a pertinent factor to individual requirements given the influence of factors such as education, skills, culture, preferences, and emotional relationship with products.

Definitions which discuss food poverty have been widely utilised in the UK, however it is argued that these established definitions are insufficient to describe food poverty. Faults in established definitions include misrepresentation wherein quotes have been taken out of context (Radimer, et al., 1992), overly generalised, where the term is descriptive of food security rather than focussed upon food poverty (Anderson, 1990) and incomplete terminology, in that all contributing factors to food poverty have not been included (Department of Health, 2005).

6.1 UK Food Poverty

Food prices in the UK were found to increase higher and persist longer than other OECD countries and this prolonged experience increased the cumulative effect upon individuals, worsening their circumstances (Griffith, et al., 2013a). Purchasing power reduced due to a decline in real income and increased inflation, for example median real income for parents with dependent children fell 7.5% between 2007-2011

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3 445 (Griffith, et al., 2013a). Food, as a relatively flexible expense allows consumers to
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5 446 reduce expenditure on this category. Griffith, et al. (2013b) explored the difference in
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7 447 consumer purchasing behaviour between 2005-07 and 2010-12 and found that all
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9 448 households reduced real expenditure on food and on average, households reduced
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11 449 real expenditure on food (into the home) by 8.5% and reduced purchased calories by
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13 450 3.6%, equating to a lower expenditure per calorie of 5.2%. However Coe (2013)
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15 451 found that the lowest income households spent 17% more on food between 2007-11,
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17 452 and received 3.2% less products.

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21 453 The increased pressure upon households has increased reliance upon food
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23 454 assistance, as demonstrated with the growth of Trussell Trust which showed growth
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25 455 of 32,350% between 2005-06 to 2013-14, with 913,138 people utilising the service in
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27 456 2013-14 (figure 10). There have been several publications relating to food parcel
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29 457 distribution; Lambie-Mumford, et al. (2014), Maslen, et al. (2013), Downing, et al.
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31 458 (2014) and Lyall, (2014), which found a growing demand for food assistance
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33 459 throughout the country however data on demand for other services is unavailable,
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35 460 and figures for food bank usage is reliant upon Trussell Trust data although there are
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37 461 multiple food assistance resources available which have yet to be examined. While
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39 462 this information may be indicative of national growth experienced by food parcel
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41 463 providers, Sosenko, et al. (2013) identified that Trussell Trust was not necessarily
42
43 464 the dominant provider of food aid in all areas. Comparatively, it was believed that
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45 465 Trussell Trust provided approximately two thirds of food parcels for Dundee and
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47 466 20% in Glasgow (Sosenko, et al., 2013).

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3 469 **Placement of Figure 10 Percentage growth in Trussell Trust reliance. (data from Trussell Trust, 2014)**

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6 7 471 **6.2 UK and International Comparison**

8 472 A fundamental dissimilarity expressed by Nord (2009) that starvation is a rare
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10 473 occurrence in developed countries, with a more likely outcome to be a reduction in
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12 474 quality and quantity of food amongst low-middle income households. Dowler & O
13
14 475 Connor (2012) supported this belief, stating that as a result of diminished affordability
15
16 476 the frequency of food consumption and the nutritional quality of food had reduced.
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18 477 Evidenced by the prevalence of malnourishment and nutrient deficiency in
19
20 478 developing countries and obesity and over nutrition in developed countries.
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24 479 Darmon & Drewnowski (2008) found a correlation in developed countries between
25
26 480 income and obesity and micronutrient deficiency, with the causal mechanisms
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28 481 between diet quality and low income consumers consisting of food prices & diet
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30 482 costs, food access, education & culture while Ricciuto, et al. (2006) and Smith, et al.
31
32 483 (2014) found that knowledge, skills, time and available funds contribute towards
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34 484 individuals diets, with low income consumers purchasing less raw ingredients such
35
36 485 as fruit and vegetables, in favour of ready to eat and calorie dense products.
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40 486 The development of inflation within the case study countries examined, table 4
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42 487 shows that inflation was significantly higher and more volatile in developing
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44 488 countries, yet the UK regularly exceed inflation for the other developed countries,
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46 489 consistent with food price volatility.
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50 490 **Placement of Table 4 CPI annual percentage change. (Data from Crawford & Church, 2014; Statistics**
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52 491 **Canada, 2014; Central Statistical Organisation, 2014; Central Statistical Organisation, 2010 and World**
53 492 **Bank, 2014b)**

54 493 Reliance upon food aid was found to increase in developed countries, however at a
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56 494 lower growth rate than the UK, while physical food aid towards developing countries
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3 495 has fallen. Reliance upon food banks in developed countries is significant with
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5 496 millions of meals distributed each year. Despite established measures available to
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7 497 address this demand, the level of support following the reduction in food affordability
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10 498 failed to completely meet the needs of individuals, in most developed or developing
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12 499 countries.

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15 500 The volume of users has been monitored for these services in many countries, a
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17 501 matter which has not been possible within the UK, as there is currently no cohesive
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19 502 body to track this development. Similarly, food poverty has been explored in depth
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21 503 within the case study countries, providing a foundation upon which to compare the
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23 504 UK situation however further research is required in the uk to ascertain nationally
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25 505 specific understanding. This is emplied by the countries examined who held
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27 506 measurement toolkits to determine the quantity of indivuals classified as food
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29 507 insecure or as food impoverished, such methods have not been undertaken within
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31 508 the uk.

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35 509 Other food insecurity risks which occur concurrently increase the risk of food poverty,
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37 510 as seen in developing areas, yet within the UK, the affordability of food is the
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39 511 predominant concern. The cumulative impact of food poverty can reduce resilience
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41 512 and prolong the negative consequences for individuals.
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46 513 **7 Conclusion**

47 514 Food poverty is not a new problem as a result of food price spikes of 2007/08, as
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49 515 evidenced by a history of food aid. However increases in food and energy prices
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51 516 reduced food affordability for almost all socio economic groups around the world with
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53 517 the lowest income households impacted most severely. As an area with numerous
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3 518 gaps in research, there is broad scope for further study to fully understand the extent
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5 519 of the situation both internationally and within the UK.
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8 520 An identification of the components of food poverty through an examination of the
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10 521 existing terminology enables the creation of a definition which encompasses all
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12 522 contributing factors. The advantage in ascertaining this information is to promote
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14 523 unity in discussion and examination by all interested stakeholders, where previously
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16 524 discord and misunderstanding impeded discussion and examination of the subject.
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18 525 Establishing a definition facilitated examination of the UK and international
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20 526 environment, in addition to empowering further research and minimising current gaps
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22 527 in knowledge.
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27 528 Comparative to the countries examined, the UK has significant gaps in
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29 529 understanding inclusive of; numbers and classification of individuals experiencing or
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31 530 vulnerable to food poverty, causes and symptoms of food poverty, methods of
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33 531 alleviation, short and long term consequences associated with transitory and chronic
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35 532 food poverty, impact upon consumer behaviour and coping strategies employed.
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37 533 These are areas which have been analysed in other regions with recognisable
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39 534 parallels; however there are limited academic studies which are UK specific. Utilising
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41 535 available knowledge from areas with substantial expertise, these issues are
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43 536 recommended for further research, to improve understanding of the subject relevant
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45 537 to the UK.
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49 538 Despite indications that UK food poverty is an escalating problem, due to limited
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51 539 measurement studies, this cannot be presented with certainty, as such the creation
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53 540 and application of measurement indicators would be beneficial to quantify individuals
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55 541 classified as in food poverty. Furthermore, there is a general lack of knowledge
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3 542 regarding identification of vulnerable individuals particularly amongst minority
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5 543 groups, and whether any correlation exists with influences such as; ethnicity, religion
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7 544 and education. In addition to ascertaining the severity of this problem, it would
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10 545 improve the ability to target vulnerable individuals.

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12 546 As a subject which has been acknowledged as a significant concern to society, it
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14 547 would be advantageous to determine the extent of national food poverty, both in the
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17 548 short term (to identify and meet the needs of vulnerable individuals) and in the long
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19 549 term (to determine the long term impacts of the present problem and to forecast
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21 550 likely trends). By investigating food poverty from a broad focus, it was found that this
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24 551 was not exclusive to the UK, and as an ongoing challenge it appears to be
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26 552 escalating, both nationally and internationally.

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Figures

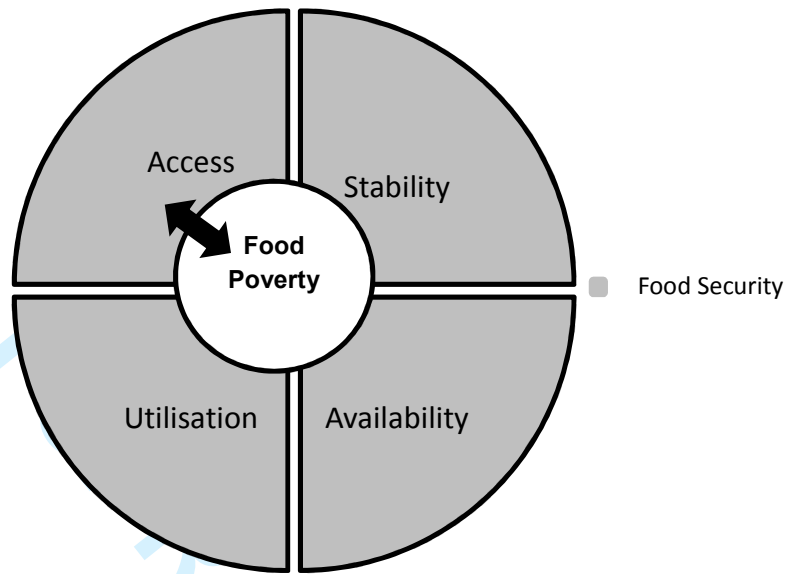


Figure 1 Relationship between food poverty and food security

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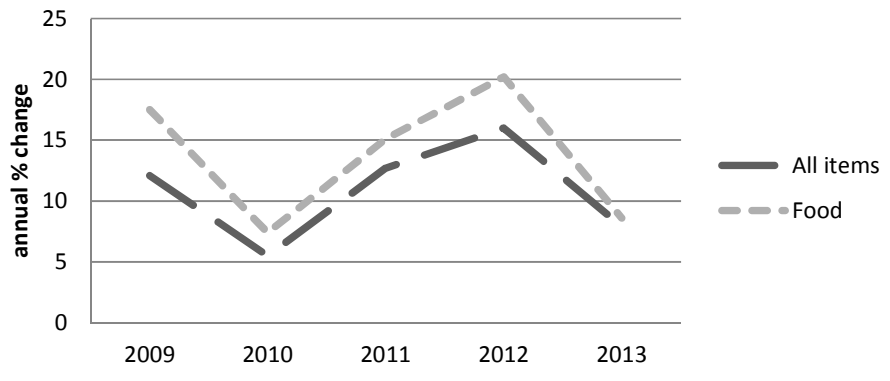


Figure 2 CPI in Tanzania, 2010= 100. (derived from National Bureau of Statistics, 2014)

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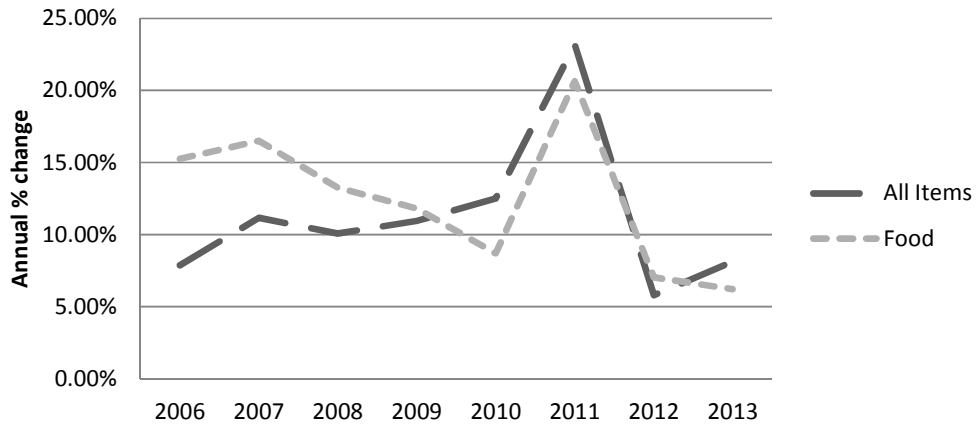


Figure 3 CPI in Yemen, 2008=100. (derived from Central Statistical Organisation, 2014; Central Statistical Organisation, 2010)

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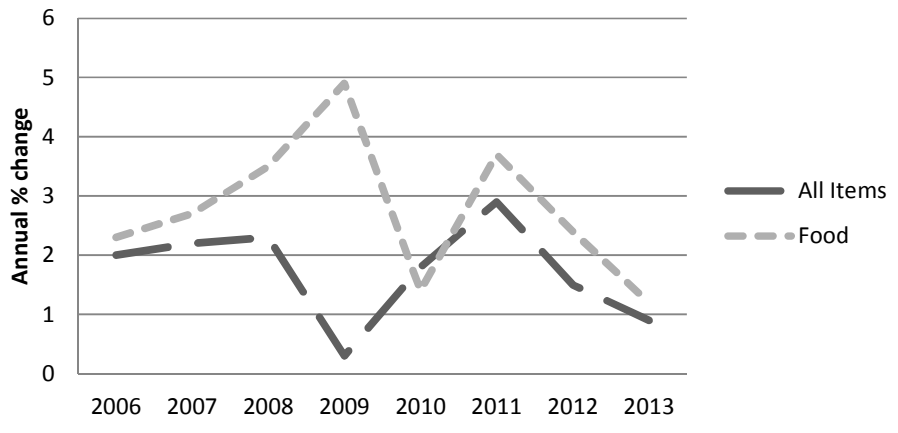


Figure 4 CPI Canada, 2002=100. (derived from Statistics Canada, 2014)

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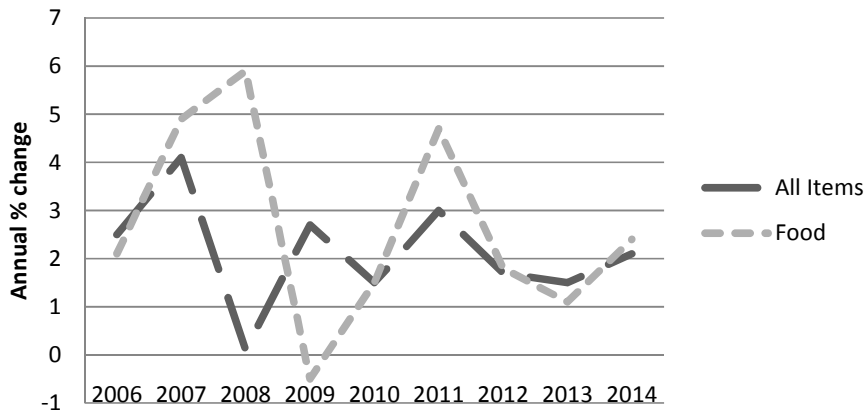


Figure 5 CPI USA, 2005=100. (derived from Crawford & Church, 2014)

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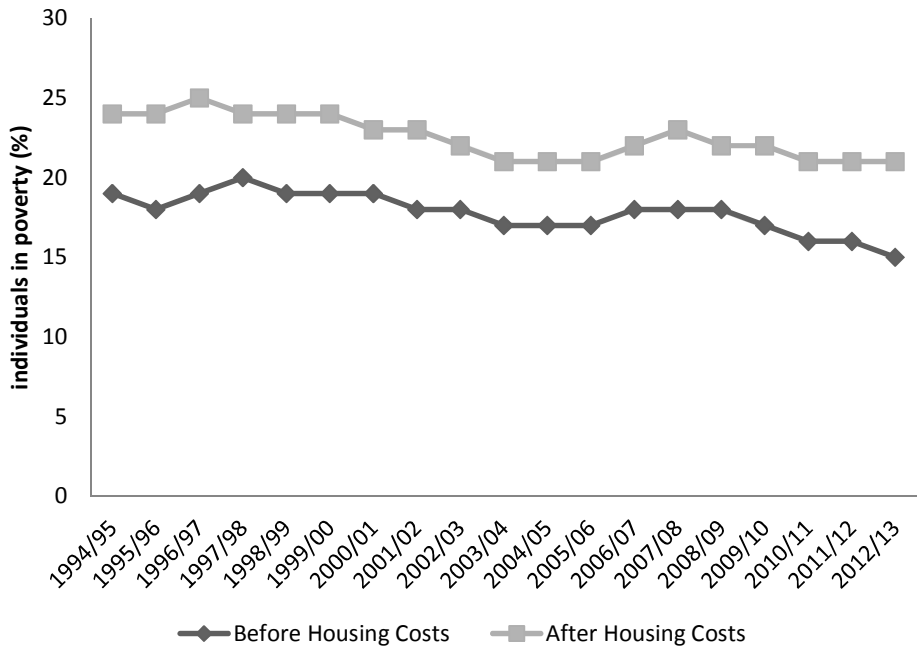


Figure 6 Percentage of individuals in relative poverty. (data from ONS, 2014)

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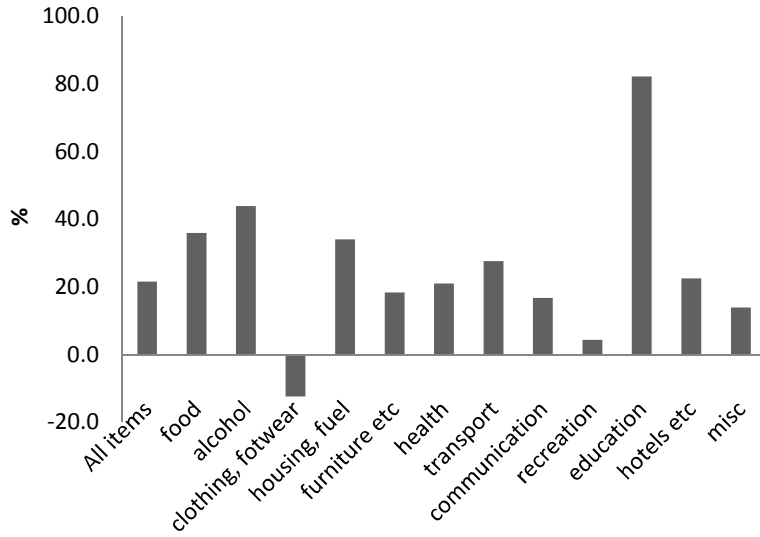


Figure 7 Difference in CPI 2007-2014. (data from ONS, 2014a)

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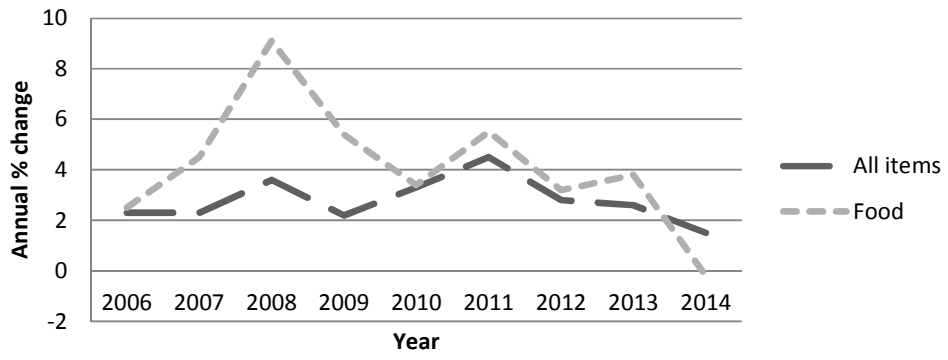


Figure 8 CPI UK, 2006=100. (data from ONS, 2014a)

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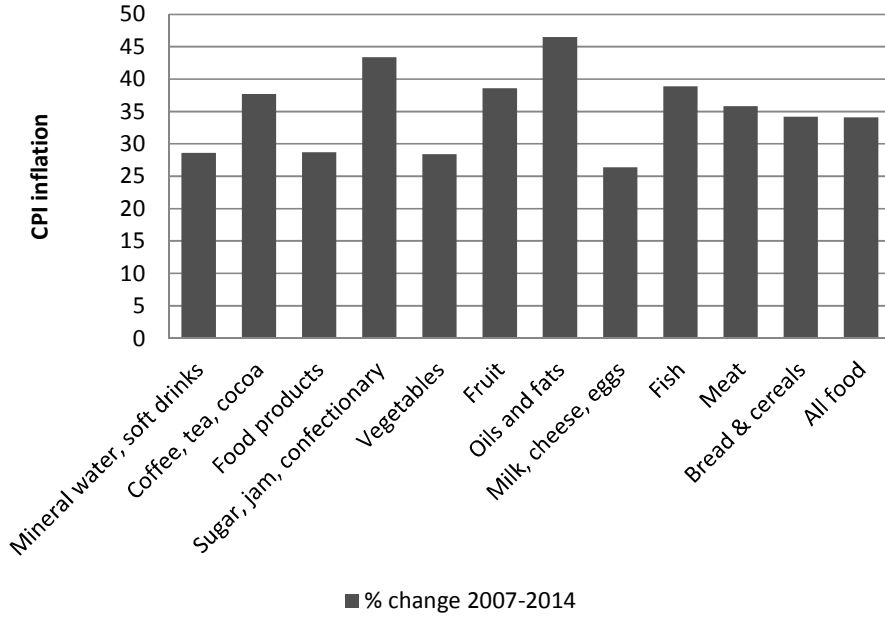


Figure 9 Growth in CPI inflation 2007-14. (data from ONS, 2014a)

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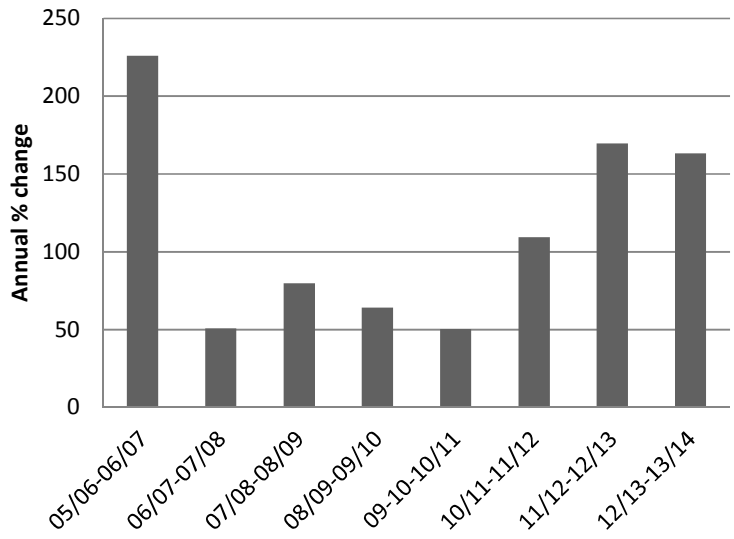


Figure 10 Percentage growth in Trussell Trust reliance. (data from Trussell Trust, 2014)

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1 Table 1 Annual domestic food price volatility index (FAO, 2014a)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
United Republic of Tanzania	10.1	10.9	8.0	8.5	12.0	4.9	4.9	7.0	4.8
Yemen	35.0	22.1	33.2	9.7	13.9	12.0	15.3	11.0	
Canada	3.8	4.9	4.8	4.9	4.7	5.4	5.2	5.9	7.8
United Kingdom	5.1	6.0	7.8	8.6	5.8	7.1	5.7	4.2	3.4

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4 Table 2 GDHI per head 2012, (data from ONS, 2014b)

Regions	GDHI per head (£)
North East	14,393
North West	14,939
Yorkshire and The Humber	14,575
East Midlands	15,206
West Midlands	14,744
East of England	17,630
London	21,446
South East	19,126
South West	16,914
United Kingdom	16,791

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7 Table 3 Percentage of population unable to afford specific items 05-11. (data from DWP, 2012)

Item	2005	2006	2007	2008	2009	2010	2011
Unexpected financial expenses	31	28.8	26.6	28.6	31.1	34.6	36.6
One week's annual holiday	23.3	22.9	21.4	24.2	26.1	27.3	29.7
Mortgage or rent payments, utility bills or loan payments	6.7	8.7	8.5	7	8.05	9.1	8.9
Heating to keep home adequately warm	5.8	4.7	4.6	6	5.8	6.1	6.5
A car	5.3	5	4.9	5.1	4.9	6	6.3
Eat meat or protein regularly	6.1	4.5	3.9	4.3	4.1	5	4.9

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10 **Table 4 CPI annual percentage change. (Data from Crawford & Church, 2014; Statistics Canada, 2014;**
11 **Central Statistical Organisation, 2014; Central Statistical Organisation, 2010 and World Bank, 2014b)**

	2006	2007	2008	2009	2010	2011	2012	2013
United Republic of Tanzania	7.3	7.0	10.3	12.1	6.2	12.7	16.0	7.9
Yemen	7.9	11.2	10.1	11.0	12.5	23.2	5.8	8.1
Canada	2.0	2.2	2.3	0.3	1.8	2.9	1.5	0.9
USA	2.5	4.1	0.1	2.7	1.5	3.0	1.7	1.5
United Kingdom	2.3	2.3	3.6	2.2	3.3	4.5	2.8	2.6

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