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## Food and drink purchases by UK households in 2011 with derived energy and nutrient intakes

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Today Defra published "Family Food 2011", a report on the 2011 Family Food Module of the Living Costs and Food Survey. The report provides statistics on food purchases by type of food and includes estimates of nutrient content. Excel datasets and method notes are provided on the website with some statistics back to the 1940s. The Family Food Survey covers about 6000 households across the United Kingdom each year. Foods are reported at a detailed level and demographic patterns and trends are identified. Download from:

<http://www.defra.gov.uk/statistics/foodfarm/food/familyfood/>

Family Spending is a separate report on the Living Costs and Food Survey published by the Office for National Statistics. It covers all forms of household expenditure but without as much detail on food and without quantities and nutrient content of food purchases.

### Key messages

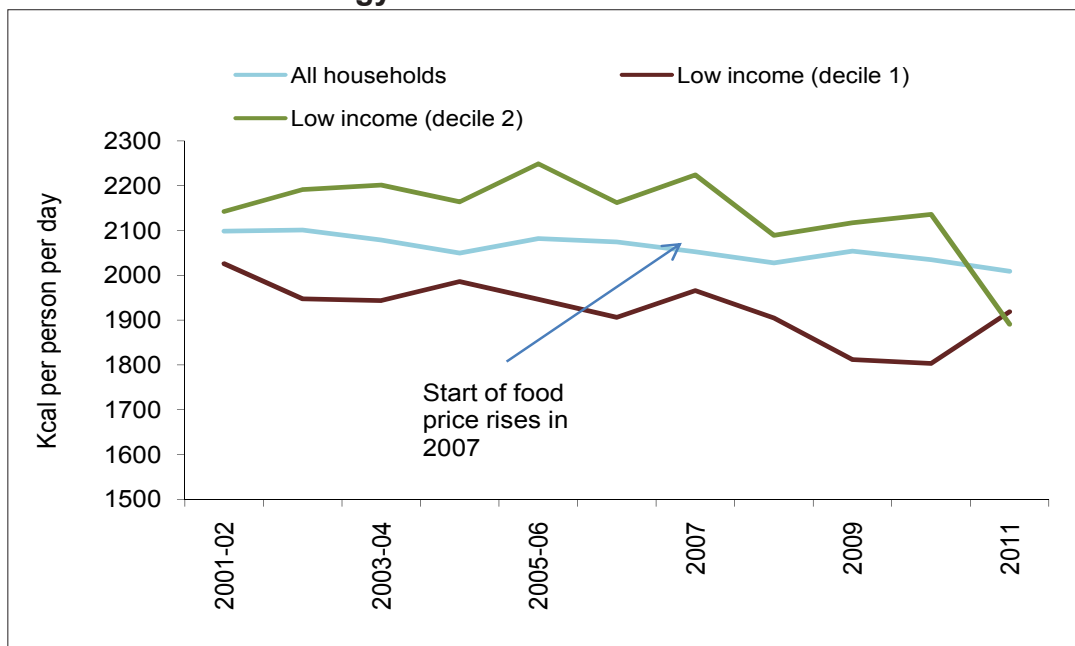
- There was a statistically significant reduction in energy intake from household food and drink in 2011 which is consistent with the longer term decline in energy intake from food and drink since the mid 1960s. Although energy intake reduced in 2011 the percentage of food and drink energy (excluding alcohol) derived from NMES and saturated fatty acids were hardly changed compared to 2010. Intake of sodium is on a downward trend.
- Households in income decile 2 (second lowest group) derived 1891 Kcals per person per day from household food in 2011, 15 per cent less than in 2007 and now similar to households in income decile 1 (lowest group). Previously each year from 2001-02 to 2010 this group had an energy intake from household food higher than the average UK household.
- For households in income deciles 1 and 2 (the lowest 20 per cent) 16.6 per cent of spend went on household food in 2011, 1.4 percentage points above the 2007 level.
- Having peaked in 2006 and 2007 purchases of fruit and vegetables were 10 per cent lower in 2011 than 2007 for UK households, 22 per cent lower for households in income decile 2 (second lowest group), and 15 per cent lower for households in income decile 1 (lowest group).

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**Chart 1. Trends in energy content of food**



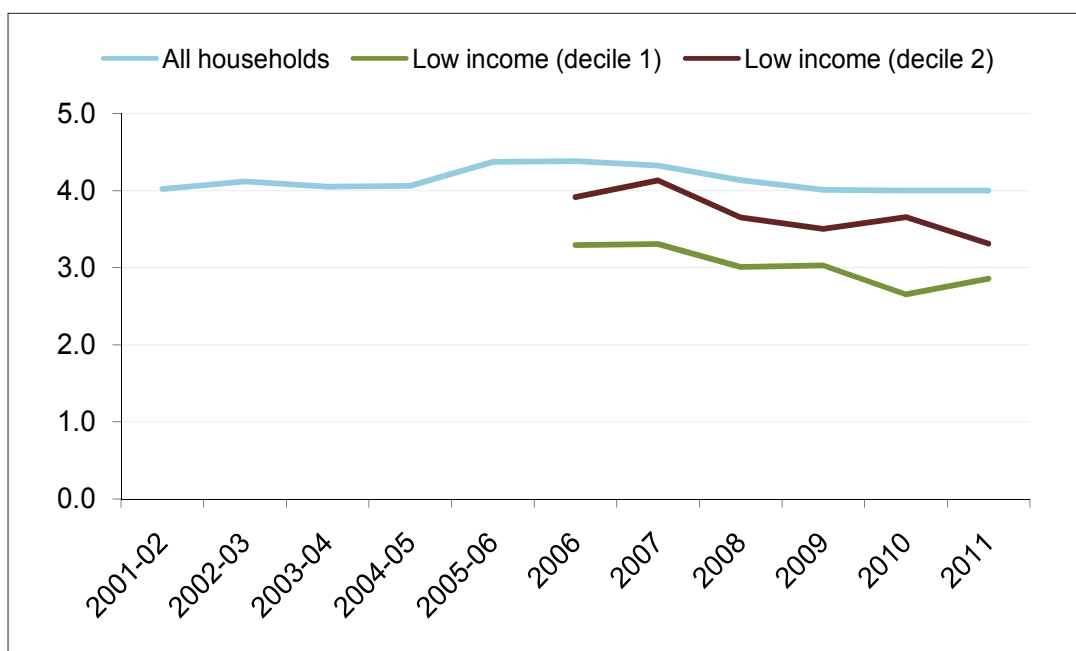
- Households in income decile 2 (second lowest group) derived 1891 Kcals per person per day from household food in 2011, 15 per cent less than in 2007 and now similar to households in income decile 1 (lowest group). Previously each year from 2001-02 to 2010 this group had an energy intake from household food higher than the average UK household..
- Households in income decile 1 (lowest income group) increased energy intake from household food by 6.4 per cent in 2011 to 1919 Kcals per person per day, having fallen 8.3 per cent between 2007 and 2010.
- There was a statistically significant reduction in energy intake from household food and drink in 2011 which is consistent with the longer term decline in energy intake from food and drink since the mid 1960s.

**Table 1. Main consumer reaction to the high food prices between 2007 and 2011**

Main consumer reaction					
	Trading down	Buying more	Buying less	Spending less	Spending more
<b>All households</b>	Cereals (-11%)	Bacon	Bread	Potatoes	Butter
trading down (-6.8%)	Biscuits & cakes (-10%)		Lamb	Lamb	Eggs
buying less (-4.2%)	Lamb (-11%)		Beef		Sugar & preserves
spending more (+12%)	Pork (-18%)		Fish		Sweets & chocolates
	Fish (-10%)		Fruit		Bacon
	Butter (-12%)		Potatoes		Cereals
	Eggs (-14%)		Vegetables		Coffee & hot drinks
	Tea (-10%)		Alcoholic drinks		
	Sweets & chocolates (-12%)				
	Potatoes (-15%)				
	Trading down	Buying more	Buying less	Spending less	Spending more
<b>Income decile 1</b>	Eggs	Pork	Butter (-18%)	Fruit	Poultry (+40%)
trading up (+1.1%)	Pork	Bacon	Fruit (-16%)		Pork (+37%)
buying less (-3.2%)	Potatoes	Cheese	Soft drinks (-12%)		Sugar & preserves (+28%)
spending more (+17%)	Butter		Vegetables (-12%)		Bacon (+27%)
	Vegetables				Cheese (+27%)
					Tea (+25%)
					Beef (+24%)

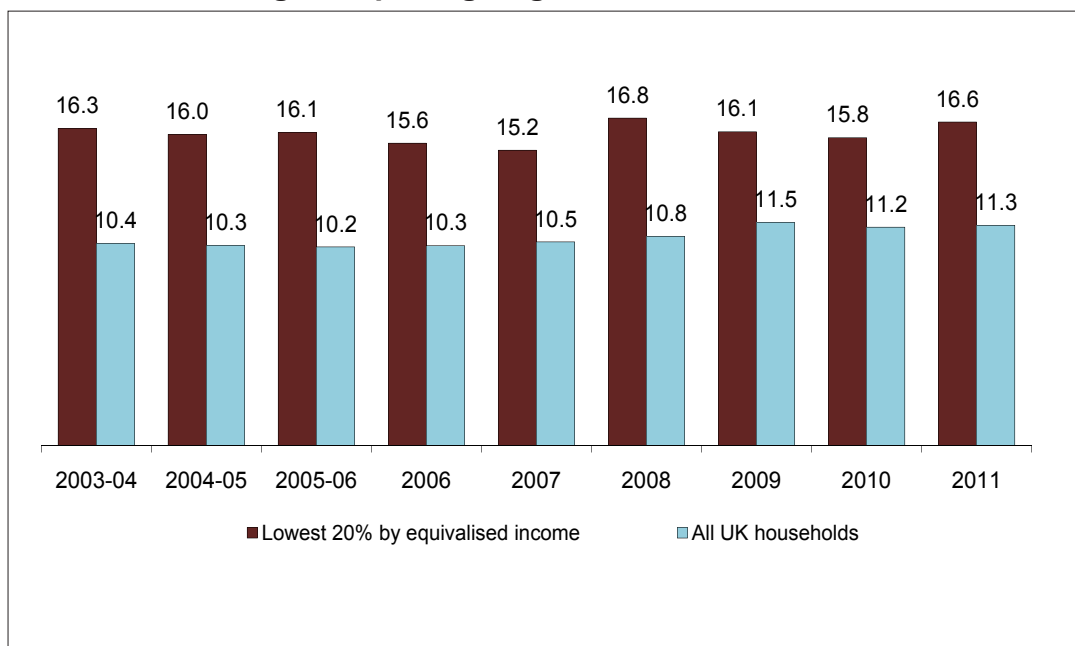
- On average UK households purchased 4.2 per cent less food in 2011 than in 2007 while spending 12 per cent more. They saved 6.8 per cent by trading down to cheaper products.
- Households in income decile 1 (lowest income group) spent 17 per cent more on food in 2011 than in 2007. Although they traded down in eggs, pork, potatoes, butter and vegetables the overall effect was not of trading down.
- Since 2007 UK households have bought less bread, lamb, beef, fish, fruit, vegetables, potatoes and alcoholic drinks but more bacon.

**Chart 2. Fruit and Vegetables (measured in portions)**



- Having peaked in 2006 and 2007 purchases of fruit and vegetables were 10 per cent lower in 2011 than 2007 for UK households, 22 per cent lower for households in income decile 2, and 15 per cent lower for households in income decile 1 (lowest income group).
- UK households purchased an average of 4.0 portions of fruit and vegetables per person per day in 2011, while households in income decile 1 (lowest income group) purchased an average of 2.9 portions of fruit and vegetables per person per day in 2011.
- Households in income deciles 1 and 2 (low income groups) have both consistently purchased smaller quantities of fruit and vegetables than higher income households.

**Chart 3. Percentage of spend going on food**



- Averaged over all UK households 11.3 per cent of spend went on household food in 2011, while for households in income deciles 1 and 2 (the lowest 20 per cent) it was higher at 16.6 per cent.
- Food is exerting greater pressure on household budgets since 2007 when food prices started to rise in real terms.

**Table 2: Household purchased quantities of food and drink**

		2008	2009	2010	2011		% change since 2010	% change since 2008	trend since 2008(b)
Number of households in sample		5845	5825	5263	5692				
Number of persons in sample		13890	13760	12196	13448	RSE(a)			
<i>grams per person per week unless otherwise stated</i>									
Milk and cream	(ml)	1957	2003	1897	1904	✓✓✓	+0.4	-2.7	↘
Cheese		111	116	118	118	✓✓✓	+0.2	+6.8	↗
Carcase meat		211	212	211	204	✓✓✓	-3.2	-3.1	
Non-carcase meat and meat products		787	787	805	794	✓✓✓	-1.4	+0.8	
Fish		161	158	151	147	✓✓✓	-2.3	-8.6	↘
Eggs	(no.)	1.6	1.6	1.7	1.7	✓✓✓	+2.1	+9.3	↗
Fats		184	181	183	170	✓✓✓	-7.5	-8.0	↘
Sugar and preserves		127	125	126	126	✓✓✓	+0.2	-0.5	
Fresh and processed potatoes		776	761	742	746	✓✓✓	+0.5	-3.9	↘
Fruit and Vegetables		2317	2246	2240	2240	✓✓✓	+0.0	-3.3	↘
Vegetables		1118	1103	1107	1090	✓✓✓	-1.5	-2.4	
Fruit		1199	1143	1133	1150	✓✓✓	+1.5	-4.1	↘
Bread		659	656	634	621	✓✓✓	-2.0	-5.8	↘
Flour		63	58	58	71	✓	+23.5	+13.8	
Cakes, buns and pastries		153	158	153	151	✓✓✓	-1.5	-1.8	
Biscuits and crispbreads		170	169	162	164	✓✓✓	+1.5	-3.1	↘
Other cereals and cereal products		535	548	556	547	✓✓✓	-1.5	+2.2	
Beverages		55	54	56	53	✓✓✓	-5.1	-2.7	
Soft drinks (c)	(ml)	1682	1678	1718	1630	✓✓✓	-5.1	-3.1	
<b>Confectionery</b>		131	134	131	134	✓✓✓	+2.2	+1.9	
Alcoholic drinks	(ml)	706	744	762	728	✓✓	-4.4	+3.2	

(a) Relative Standard Error: 3 ticks: < 2.5%, 2 ticks: 2.5% - 5%, 1 tick: 5% - 10%, no ticks: 10% - 20%, cross: >20%, - not available

(b) an arrow indicates a statistically significant linear trend since 2008, see website for more details

(c) converted to unconcentrated equivalent by applying a factor of 5 to concentrated and low calorie concentrated soft drinks

- There are downward trends in purchases of fruit, fresh green vegetables, bread, milk, fats and biscuits. The downward trends in fruit and milk purchases remain, despite small rises recorded in 2011.
- There are upward trends in purchases of cheese, eggs, meat-based ready meals and low calorie soft drinks.

**Table 3: Eating out purchased quantities of food and drink**

		2008	2009	2010	2011		% change since RSE(a)	% change since 2008	trend since 2008(b)
<b>Eating Out Purchases</b>									
<i>grams per person per week unless otherwise stated</i>									
<b>Alcoholic drinks</b>									
average across whole population	ml	443	449	413	394	✓✓	-4.6	-11.2	↘
average excluding under 14's	ml	532	538	494	472	✓✓	-4.4	-11.3	↘
Soft drinks inc. milk drinks	ml	291	286	279	269	✓✓✓	-3.4	-7.5	↘
Beverages	ml	124	120	117	117	✓✓	-0.4	-5.4	
Sandwiches		73	67	67	64	✓✓	-3.7	-12.3	↘
Fresh and processed potatoes		66	65	62	62	✓✓✓	-0.2	-6.3	↘
Vegetables		29	28	26	27	✓✓	+5.0	-8.5	↘
Fresh and processed fruit		13	12	12	12	✓✓	+0.9	-5.3	
Confectionery		12	11	10	9	✓✓	-5.8	-24.5	↘
Soups		10	9	8	10	✓	+20.1	+3.3	
Bread		8	7	7	7	✓✓	-1.3	-10.7	↘
Crisps, nuts and snacks		8	7	7	7	✓✓	+1.6	-11.6	↘
Biscuits and chocolate		3	3	3	3	✓✓	-1.6	-4.3	

(a) Relative Standard Error: 3 ticks: < 2.5%, 2 ticks: 2.5% - 5%, 1 tick: 5% - 10%, no ticks: 10% - 20%, cross: >20%, - not available

(b) an arrow indicates a statistically significant linear trend since 2008, see website for more details

(c) Other food products mostly contains unspecified meals such as free school meals and free meals through work.

- There are downward trends in purchases of most categories of eating out food and drink since 2008. The most significant reductions include confectionery down 24 per cent, alcoholic drinks down 11 per cent, 'crisps, nuts and snacks' down 12 per cent and fresh and processed fruit down 5.3 per cent.

**Table 4: Expenditure on food and drink**

	£ per person per week	2010	2011	% change	real terms % chg (a)
<b>Expenditure on food and non-alcoholic drinks</b>					
Household Expenditure		24.50	24.92	1.7%	-3.3
Eating out Expenditure		8.54	8.79	3.0%	-2.1
All food and non-alcoholic drinks		33.04	33.71	2.0%	-3.0
<b>Expenditure on alcoholic drinks</b>					
Household Expenditure		3.07	3.08	0.1%	-4.9
Eating out Expenditure		3.12	3.14	0.7%	-5.5
All alcoholic drinks		6.19	6.22	0.4%	0.4

(a) This removes the impact from general inflation.

- Food spending in 2011 was only 1.7 per cent higher than in 2010 despite food inflation averaging 5.9 per cent over the year. On average 11.3 per cent of spending by UK households went on household food and drinks in 2011.

- Spending on food and drink for the household came to £27.99 and on eating out to £11.93 in 2011. (Food for the household is any food that enters the household regardless of where it is eventually consumed).
- In real terms, households reduced spending in 2011 on household food and non-alcoholic drinks by 3.3 per cent.

**Table 5: Energy and nutrient intakes**

		2008	2009	2010	2011	% change since 2010	% change since 2008	% from food eaten out in 2011
<b>Total energy and selected nutrient intakes <sup>(a)</sup></b>		<i>average intake per person per day</i>						
Energy	kcal	2276	2304	2292	2245	-2.1	-1.4	10.5
Carbohydrate <sup>(b)</sup>	g	279.1	281.9	279.3	276.4	-1.0	-1.0	8.7
Fibre <sup>(c)</sup>	g	15.0	15.2	15.3	15.2	-0.6	+1.3	10.5
Alcohol	g	9.4	10.2	10.2	9.8	-4.1	+4.2	24.8
Sodium <sup>(d)</sup>	g	2.78	2.82	2.83	2.74	-3.1	-1.5	11.4
<b>As a percentage of energy intake (excluding energy from alcohol)</b>								
Fat	%	38.5	38.5	38.6	38.1	-1.3	-1.0	
Fatty acids:								
saturates	%	14.6	14.5	14.2	14.2	-0.3	-2.4	
monounsaturates	%	14.3	14.5	15.0	14.8	-1.3	+3.6	
polyunsaturates	%	7.1	6.9	6.9	6.7	-3.4	-5.3	
Carbohydrate	%	47.4	47.4	47.2	47.6	+1.0	+0.6	
Non-milk extrinsic sugars	%	14.1	14.2	13.9	13.9	-0.2	-1.8	
Protein	%	14.1	14.1	14.2	14.2	+0.3	+0.4	

(a) Contributions from pharmaceutical sources are not recorded by the survey

(b) Available carbohydrate, calculated as monosaccharide equivalent

(c) As non-starch polysaccharides

(d) (i) Excludes sodium from table salt (ii) In May 2003 the Scientific Advisory Committee Nutrition recommended that average salt intake for adults should not exceed 6 g/day, equivalent to 2.4 grams of sodium.

- Intakes of NMES and saturated fatty acids, as measured as a percentage of food and drink energy (excluding alcohol), were both lower in 2011 than in 2008, although hardly changed compared to 2010. Both continue to exceed the government recommended levels.
- All micronutrient intakes except sodium reached at least 100 per cent of their reference nutrient intake values, where one is set. The average intake of sodium excluding table salt was 84 per cent above the recommended maximum in 2011, but is on a downward trend.

## Geographic comparisons

- Averaged over the three years to 2011 the ratio between the highest and lowest amounts purchased for household supplies between the four UK countries varied from 1.1 (milk and cream, eggs, fruit, and cereals) to 1.6 (sugar and preserves).
- Rural areas tended to have higher food and drink purchases and associated higher energy and nutrient intakes.

Where the ratio between highest and lowest levels of purchasing was greater than 1.25:

- Northern Ireland households purchased the least cheese, sugar and preserves, vegetables and alcoholic drinks. They purchased the most carcase meat and potatoes.

- Wales households purchased the most sugar and preserves, vegetables and alcoholic drinks.
- Scotland households purchased the least carcass meat and potatoes.
- England households purchased the most cheese.

### **Income comparisons**

- After controlling for differences in household composition, region and the age and ethnic origin of the household reference person, the survey shows that low income is associated with lower levels of fruit, vegetables and fibre, and with higher levels of NMES (non-milk extrinsic sugars).
- Households in income deciles 2 and 3 (low but not the lowest income) obtained the highest amount of food energy from NMES. Households with the highest income, deciles 9 and 10, purchased foods with a lower amount of NMES.
- Households in income deciles 1, 2 and 3 purchased less fruit than other income deciles. This was a difference of 99 grams of fruit per person per day, just over one portion of 5 A DAY (80 grams), between the highest and lowest income groups.
- Purchases of vegetables increased with income. The difference between the lowest and highest deciles equates to half a portion of vegetable purchases. Those households in income deciles 1, 2, 3 and 5 purchased lower quantities of vegetables.
- Purchases of food containing fibre increased with income. Fibre intake was higher in income groups 7, 8 and 10. Many in these income groups achieved the recommended average of 18 grams of fibre per day. There was a difference of 4 grams per person per day between the highest and lowest income groups.

### **Price elasticities**

The report includes estimates of how demand for different types of food varies with changing food prices and different levels of total expenditure on food. These estimates are known as price elasticities and are based on Family Food Survey data from 2001 to 2011. The underlying research was carried out by Reading University on behalf of Defra.

- Demand for alcoholic drinks by low income households (bottom 10 per cent by equivalised income) became more sensitive to price in 2008 and 2009 than it had been between 2001 and 2007. Those paying a 1 per cent higher price for alcoholic drinks purchased on average 2.7 per cent less in 2008 and 2009. Previously in 2001 to 2007 they had purchased 1.4 per cent less.

## Further information

1. The statistics in this Notice are supported by comprehensive Excel datasets available on the Family Food page of the Defra website at: <http://www.defra.gov.uk/statistics/foodfarm/food/familyfood/datasets/>
2. Method notes explaining the survey design are available on the Defra website at: <http://www.defra.gov.uk/statistics/foodfarm/food/familyfood/method/>
3. Family Spending is a related report produced by the Office for National Statistics covering all household expenditure as collected in the Living Costs and Food Survey. It is available from: <http://www.ons.gov.uk/ons/rel/family-spending/family-spending/family-spending-2011-edition/index.html>

## Notes for editors

1. The estimates are derived from the Family Food Module of the Living Costs and Food Survey run in Great Britain by the Office for National Statistics and Defra and in Northern Ireland by the Central Survey Unit of the Northern Ireland Statistics and Research Agency (NISRA).
2. Historical estimates are derived from the National Food Survey run by Defra, which terminated in 2000.
3. Energy and nutrient intakes are derived from purchases of food and drink assuming no waste. Nutrient profiles are established by the Department of Health for each of about 500 categories of food and drink based on the edible content.
4. Under-reporting is a problem with all dietary surveys but is considered to be lower in the Family Food Module. Its focus on all expenditure, with most food items collected from till receipts reduces the scope for under-reporting of household purchases.
5. Household food covers all food and drink purchases brought into the home. Items are recorded in the form they are purchased; for example, eggs purchased and later used to make a cake will be recorded under eggs and not under cakes. However, if a ready-made cake is purchased, it is recorded under cakes.
6. From time to time modifications are made to the coding framework and the nutrient profiles for food and drink items and to procedures used in assigning foods and drinks to codes. Changes were made to the codes for Fish and fish products, eggs, confectionery, bread, sponge puddings, custard, ice cream, soup, pizza, meat pasties and puddings, sausage rolls, breaded chicken and chicken burgers, cereal convenience foods (e.g. quiche, corn snacks, tortilla chips), chips, coleslaw, fats, and milk in 2011. These changes are not backdated and can appear as anomalous changes in purchases or intakes.
7. Income deciles divide the UK household population into ten equally sized groups based on the magnitude of their equivalised income. Equivalised income is calculated using the OECD-modified equivalence scale which assigns a value of 1 to the first household member, of 0.5 to each additional adult and of 0.3 to each child. Equivalised income is gross household income divided by the OECD scale value.