Food purchases and nutrition over the recession

Rachel Griffith, Martin O’Connell and Kate Smith

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Introduction

• The recent recession led to large declines in household income
  – Employment rates declined
  – Real wages stagnated
  – Asset prices fell

• What happened to household spending?
  – Food spending declined
  – Households bought less food
  – Did households substitute to more calorie dense foods?
  – What impact did this have on the nutritional content of diets?
Change in nondurable consumption

Quarters since start of recession


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Components of non-durable consumption that declined in a consistent way in each recession

- Annual percentage point deviation from expansionary trend growth of consumption component

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>1990</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household goods</td>
<td>-13.2*</td>
<td>-13.1*</td>
<td>-10.2*</td>
</tr>
<tr>
<td>Catering</td>
<td>-7.2*</td>
<td>-7.4*</td>
<td>-7.4*</td>
</tr>
<tr>
<td>Alcohol</td>
<td>-5.8*</td>
<td>-5.1*</td>
<td>-8.3*</td>
</tr>
<tr>
<td>Leisure services</td>
<td>-6.4</td>
<td>-9.6*</td>
<td>-6.2*</td>
</tr>
</tbody>
</table>

* Statistically significant change

Source: Crossley, Low and O'Dea (2011) "Household consumption through recent recessions" IFS Working Papers, W11/18
Components of non-durable consumption that declined differently in the most recent recession

- Annual percentage point deviation from expansionary trend growth of consumption component

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>1990</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food at home</td>
<td>-0.2</td>
<td>-2.5</td>
<td>-6.1*</td>
</tr>
<tr>
<td>Motoring</td>
<td>-11.3*</td>
<td>-9.8*</td>
<td>-3.6*</td>
</tr>
<tr>
<td>Leisure goods</td>
<td>-12.5*</td>
<td>-11.8*</td>
<td>-1.9</td>
</tr>
<tr>
<td>Clothes and shoes</td>
<td>-4.4*</td>
<td>-4.1*</td>
<td>-2.9</td>
</tr>
</tbody>
</table>

* Statistically significant change


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Food prices

• Substantial decline in amount of food purchased
  – Different in this recession to past recessions

• The recession was contemporaneous with a large increase in the price of food
  – Depreciation of sterling led to increase in price of imported goods
  – World commodity prices rose
  – RPI food basket increased by 10% between Oct. 2007 and Oct. 2008
  – UK price increase larger in UK and persisted

• There were also big changes in relative food prices
  – Meat, poultry, eggs, dairy, cereals saw large price increases
  – Price of prepared foods rose by less
Food prices in the UK declined substantially from 1975 to 2007.
Food price rose dramatically from mid-2007
Increase in food prices higher in the UK and persisted
Food expenditure

• Substantial decline in amount of food purchased
  – due to a reduction in real income and changes in relative price of foods
• What impact did this have on types of foods purchased
  – as households reduced expenditure did they substitute to cheaper calories, what impact did this have on nutrition
• Use data on food purchases made by over 3000 UK households observed over the period 2006-2009
  – data from Kantar Worldpanel, households record information on all foods purchased and brought into the home
  – detailed information on individual products and nutrients
Real expenditure on food per person per day

3.8% reduction in real expenditure on food
Calories purchased per person per day

Mean calories per person per day

Three month deseasoned moving average

2.9% reduction in calories purchased
Calorie density of foods purchased

2.6% increase in calorie density of food
### Change in calories by food type

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Change in calories</th>
<th>% change in calories</th>
<th>% change in density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>-17</td>
<td>-8.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Meat</td>
<td>-16</td>
<td>-7.9%</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Fruit</td>
<td>-14</td>
<td>-11.0%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Poultry</td>
<td>-8</td>
<td>-1.7%</td>
<td>-2.5%</td>
</tr>
<tr>
<td>Prepared Sweet</td>
<td>-7</td>
<td>-1.7%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Prepared Savoury</td>
<td>-6</td>
<td>-1.7%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Drinks</td>
<td>-6</td>
<td>-11.8%</td>
<td>-5.8%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>-5</td>
<td>-3.1%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Cheese</td>
<td>1</td>
<td>-0.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Grains</td>
<td>9</td>
<td>-2.1%</td>
<td>3.6%</td>
</tr>
</tbody>
</table>
Real expenditure on food per person per day, by Social Class

- Mean real expenditure per person per day
- Social Class AB, Social Class C, Social Class DE
- Three month deseasoned moving average

Reduction in expenditure differs by social class:
- AB: -2.3%
- C: -3.7%
- DE: -4.5%
Calories purchased per person per day, by Social Class

Mean calories per person per day

Three month deseasoned moving average

 reduction in calories differs by social class
AB: -1.3%
C: -2.7%
DE: -3.6%
Calorie density of foods purchased, by Social Class

Three month deseasoned moving average

Mean calories density (cals per kg)


Social Class AB
Social Class C
Social Class DE

increase in intensity differs by social class
AB: 3.1%
C: 2.6%
DE: 2.3%
## Change in nutrients by Social Class

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>AB</th>
<th>C</th>
<th>DE</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real expenditure</td>
<td>-2.3%</td>
<td>-3.7%</td>
<td>-4.5%</td>
<td>-3.8%</td>
</tr>
<tr>
<td>Calories</td>
<td>-1.3%</td>
<td>-2.7%</td>
<td>-3.6%</td>
<td>-2.9%</td>
</tr>
<tr>
<td>Fats</td>
<td>-1.8%</td>
<td>-2.9%</td>
<td>-3.8%</td>
<td>-3.2%</td>
</tr>
<tr>
<td>Fibres</td>
<td>-0.8%</td>
<td>-1.7%</td>
<td>-1.8%</td>
<td>-1.7%</td>
</tr>
<tr>
<td>Salt</td>
<td>-11.5%</td>
<td>-12.2%</td>
<td>-12.2%</td>
<td>-12.4%</td>
</tr>
<tr>
<td>Sugar</td>
<td>-1.8%</td>
<td>-3.5%</td>
<td>-3.8%</td>
<td>-2.5%</td>
</tr>
</tbody>
</table>

From RG_talk_24May2012.do
Change in nutrient intensity by Social Class

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<thead>
<tr>
<th>Nutrient</th>
<th>AB</th>
<th>C</th>
<th>DE</th>
<th>All</th>
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<tbody>
<tr>
<td>Calories</td>
<td>3.1%</td>
<td>2.6%</td>
<td>2.3%</td>
<td>2.6%</td>
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<tr>
<td>Fats</td>
<td>2.9%</td>
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<td>4.1%</td>
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<tr>
<td>Salt</td>
<td>-7.6%</td>
<td>-7.3%</td>
<td>-7.6%</td>
<td>-7.5%</td>
</tr>
<tr>
<td>Sugar</td>
<td>2.3%</td>
<td>1.8%</td>
<td>2.4%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>
Summary

• Households experienced a decline in income and a contemporaneous large increase in the price of food and changes in relative food prices

• There was a substantial decline in the amount of food purchased
  – this was higher for social class DE households and less for AB

• Households compensated by purchasing cheaper more calorie dense foods
  – AB households did this more than DE

• Nutrition improved in some dimensions
  – lower salt, higher fibre, reduction in “bads” from decline in quantity

• Nutrition declined in other dimensions
  – Households shifted towards higher fat and higher sugar foods