Food Statistics Pocketbook 2008
## National Statistics

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The following statistics are “National Statistics” (official statistics that comply with the national statistics code of practice).

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Chapter 2: Consumer Demand
2.1, 2.2 (EFS data)

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Chapter 7: Regional
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Further information on National Statistics can be found on the UK Statistics Authority website: http://www.statisticsauthority.gov.uk/
This booklet provides a concise round-up of statistics on food covering the economic, social and environmental aspects of the food we eat (excluding agriculture). The 2008 edition uses a wider range of data sources and has been significantly restructured. Chapters are:

1. Food Chain (beyond agriculture)
2. Consumer Demand
3. Food Supply & Prices
4. Environment
5. Health
6. Food Safety
7. Regional Results

**Economic Definition**

The UK food sector is defined as food manufacturing, food wholesaling, food retailing and non-residential catering. In terms of the standard industrial classification (SIC 2003) it is defined as:

- **Food Manufacturing:** 15 (includes 15.7 = animal feed)
- **Food Wholesaling:** 51.3 less 51.35
- **Food Retailing:** 52.1 & 52.2 less 52.12 & 52.26
- **Non-residential Catering:** 55.3, 55.4 and 55.5

The deductions are to remove non-food retailing as far as possible.

The agri-food sector is the food sector plus agriculture and fishing. Agriculture and fishing are shown in several charts for comparison.

**Data Sources**

Data comes from Government surveys run by the Office for National Statistics and Defra and from a wide range of other sources including
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Government agencies and commercial organisations. Further information on data sources, including webpage links, can be found in the online version of this document:


Glossary

**Net capital expenditure**
This is calculated by adding to the value of new building work, acquisitions less disposals of land and existing buildings, vehicles and plant and machinery.

**Gross Value Added (GVA)**
GVA is the difference between output and intermediate consumption for any given sector/industry. This is the difference between the value of goods and services produced and the cost of raw materials and other inputs which are used up in production.

**Total Factor Productivity (TFP)**
Productivity measures the efficiency at which inputs are converted into outputs. Total Factor Productivity provides a comprehensive picture of growth.

**Food Security**
The common themes of food security are availability of food; access of consumers to affordable, nutritional and safe food; resilience of the food system to significant disruptions, and public confidence in that system.
Related Publications:

“Agriculture in the United Kingdom 2007”
“Agricultural Statistics in your Pocket 2007”
“Family Food 2006”

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Key Statistics

Economy

• The agri-food sector contributed £79.4 billion or 8.6% to national market sector GVA in 2006 and employed 3.7 million people in quarter four of 2007. Its productivity increased in 2006 by 1.2% in food and drink retailing and by 2.3% in food and drink manufacturing.

• UK household consumers spent £29.55 per person per week on all food and non-alcoholic drink in 2006. Of this £8.00 went on food and non-alcoholic drink eaten out.

Food Supply & Prices

• In 2006, 26 countries together accounted for 90% of UK food supply. Just under half was supplied domestically from within the UK.

• The annual rate of inflation in July 2008 was 12.2% for food and 5.0% for all items in the retail price index basket. The price of bread rose 20%, pork 25%, poultry 24%, butter 37%, eggs 36% and milk 29%.

Environment

• A third of GHG emissions in the UK food chain are attributed to UK farming and fishing. Another 25% are attributed to net trade and 13% to household food shopping, storage and preparation.

• UK households waste an estimated 6.7 million tonnes of food every year, roughly one third of food purchased. Some 61% or 4.1 million tonnes of this waste is avoidable.

Health & Food Safety

• Food-related ill health is estimated to have cost the NHS £6 billion in 2002 (9% of NHS costs), which pro rata in 2007 would be £7.7bn. In 2007 93% of people said that health is very or somewhat
important when buying food. Fat and saturated fatty acids concern people the most.

- In 2007 60% said they were confident in the current measures taken by all organisations involved in protecting health with regards to food safety.
Chapter 1: Food Chain

1.1: Economic summary of the UK food chain beyond agriculture

UK Consumers
61 million people

Exports (a)
£11.4bn of which:
- Unprocessed - £0.8bn
- Lightly processed - £4.0bn
- Highly processed - £6.6bn

Total Consumers’ Expenditure (b)
on food, drink and catering services - £172bn

Consumers’ Expenditure (b)
on catering services - £82bn

Household Expenditure (b)
on food and drink - £90bn

Caterers (restaurants, cafes, canteens)
Gross value added - £21.3bn (c)
- Employees - 1,422,000 (d)
- Enterprises - 117,199
- Catering outlets - 377,362

Grocery Retailers
Gross value added - £21.3bn (c)
- Employees - 1,196,000 (d)
- Enterprises - 55,273
- Stores - 99,134

Food and Drink Wholesalers
Gross value added - £9.7bn (c)
- Employees - 192,000 (d)
- Enterprises - 14,145

Food and Drink Manufacturing
Includes everything from primary processing (milling, malting, slaughtering) to complex prepared foods. Many products will go through several stages.
- Gross value added – £21.2bn (c)
- Employees – 394,000
- Enterprises – 6,947
- Manufacturing sites/factories – 9,015

Imports (a)
£26.6bn of which:
- Unprocessed - £5.4bn
- Lightly processed - £12.0bn
- Highly processed - £9.2bn
1.1: Economic summary of the UK food chain beyond agriculture\(^1\) (continued)

(a) Overseas trade data is for the full year 2007 from HM Revenue and Customs. Data may not equal total due to rounding. Dashed lines indicate main trade flows.

(b) Consumers’ expenditure, properly known as household final consumption expenditure, is provisional from the Office for National Statistics for full year 2007 and is calculated at current prices.

(c) Gross value added (GVA) figures are from the Office for National Statistics for full year 2006 and are calculated at basic prices (market prices less taxes plus subsidies).

(d) Employee data for food and drink wholesalers, grocery retailers, and caterers, is for Great Britain only and is for Q4 2007 from the Office for National Statistics. Employee data is rounded.

(e) Food and drink manufacturing includes animal feed and tobacco.

\(^1\) Excludes sectors downstream from food and drink manufacturing such as the food and drink supply industry (food processing machinery).
The agri-food sector contributed £79.4 billion or 8.6% to national market sector GVA and 7.0% to national GVA in 2006.

Agriculture and fishing is the smallest component of the agri-food sector contributing 7.4% of its GVA. The food sector (excluding agriculture) increased by 26% between 2000 and 2006 while the whole economy increased by 30%.

There were over 26,000 business registrations in the food sector in 2006 resulting in over 6,000 more businesses, with 5,000 of the net gain in non-residential catering.

In the late nineties de-registrations exceeded registrations in the food sector. Since 2001 there have been more registrations. In 2006 there were more registrations in each of the sub-sectors.

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2 The market sector covers private non-financial corporations, private financial corporations, household and public corporations. It excludes government and non-profit institutions serving households.

3 Department for Business, Enterprise and Regulatory Reform (BERR). Wholesaling includes tobacco (SIC 51.35). Retailing includes some non-food retailing including tobacco (SIC 52.12 & 52.26).
TFP of food and drink retailing increased by 1.2% in 2006 due to a rise in volume of outputs coupled with a fall in volume of inputs. Its TFP fell in 2001 and 2002 and is now still below its level in 1998. This is possibly because retailers used inputs to improve their stores, rather than directly for the output of goods.

TFP of food and drink manufacturing is increasing as input flows from capital stock and labour decrease. In 2006 volume of outputs dropped but volume of inputs dropped by more resulting in a gain in TFP of 2.3%.

Efficiencies in the use of purchases are paramount in productivity. Purchases, mainly food, dominate the inputs, in terms of cost, accounting for 79% in food manufacturing, 85% in food retailing, 65% in non-residential catering and 92% in food wholesaling.

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4 Wholesaling includes tobacco (SIC 51.35).
The food chain had 3.2 million employees in quarter four of 2007. The total agri-food sector, which includes agriculture and fishing, covers 14% of national employment.

Employment in food and drink manufacturing has fallen by 18% since 2000, now accounting for 11% of employment in the agri-food sector. Food and drink wholesaling is half the size of food and drink manufacturing, making it the smallest of the sub-sectors.

Non-residential catering and food and drink retailing accounted for 71% of employees in the agri-food sector in quarter four of 2007. Employment in these sub-sectors rose by 1.1% and 2.1% respectively in 2007.

Source: Labour Market Trends (ONS) and June Survey (Defra)

5 Data for the food sector is not available for Northern Ireland. However, numbers are likely to be small. For example, there were a total of 87,000 employees in the entire manufacturing sector in Northern Ireland in the third quarter of 2005.

6 Wholesaling and retailing tobacco (SIC 51.35 & 52.26).

7 Agriculture is on a UK basis and includes self employed farmers, farmers’ partners, spouses and directors.
Non-residential catering and food and drink retailing are characterised by more part time jobs with about 60% of employees working part time.

Non-residential catering and food and drink retailing are characterised by more hours worked by women than men.

In general about half the people in the food sector are part time workers and about two thirds of the part time jobs are filled by women.

Food and drink manufacturing and food and agricultural wholesaling are dominated by male workers with over 70% of hours worked by males.

Source: Annual Survey of Hours and Earnings (ONS) & Labour Market Trends (ONS)\(^8\)

\(^8\) Wholesaling and retailing tobacco (SIC 51.35 & 52.26)
The food and drink retailing sector had a turnover of £124.5 billion in 2006. GVA in the sector has been increasing since 2001 and is now £21.3 billion, 24% higher than in 2001.

Net capital expenditure in food and drink retailing reached a peak in 2004 at £4.8 billion. Since then net capital expenditure has fallen by 15% to £4.1 billion in 2006. This accounted for almost half of capital expenditure in the food sector in 2006.

Employment in food and drink retailing increased by 4.6% between 2000 and 2006.

The number of businesses registered for VAT in food and drink retailing has been in decline for a number of years. This decline has been slowing gradually since 1995 but has now reversed – in 2006 there were 600 more businesses registered for VAT.

Source: Annual Business Inquiry (ONS)

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9 Department for Business, Enterprise and Regulatory Reform (BERR). Retailing includes some non-food retailing including tobacco (SIC 52.12 & 52.26).
The combined market share of the largest four food and drink retailers was 76%.

Asda, Morrisons, Aldi and the Other Multiples increased market share slightly at the expense of Tesco, Sainsbury, Waitrose, Somerfield, the Co-op and Independents compared with the same period last year.

In 2005 the 123 largest food and drink retailing businesses accounted for over 80% of GVA in the food and drink retail sector.

In 2005 small and medium sized enterprises accounted for 5.9% of GVA in food and drink retailing.

In 2005 there were about 52,000 micro businesses in the food and drink retail sector, accounting for 93% of all businesses in the sector, but only 13% of GVA.

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10 Other Multiples include Lidl, Iceland, Netto, Farm Foods, Kwik Save, smaller multiples and other freezer centres.

11 Annual Business Inquiry (ONS). Businesses with 0-9, 10-49, 50-249 and 250+ employees are classed as micro, small, medium-sized and large respectively.
Since 2000 the retail price of milk in shops has doubled despite the farmgate price and processor margin only increasing by 22% and 25% respectively. At the end of 2007 milk was retailing at 56p per litre, with a farmgate price of 27p per litre, giving farmers a 48% share.

In 2007 the farmgate share of the price of a basket of items covering staples of agricultural production was 36%, having been 47% in 1988. Since 1998 the farmgate share has remained relatively constant.12

Milk is the largest value output by farmers, accounting for 18% of their output and 33% of the basket (non-food produce such as animal feed and horticulture are not in the basket).12

Some farmers are circumventing the retail food chain by supplying farmers’ markets, the restaurant wholesale market or by exporting. In 2007 turnover from direct sales to farmers’ markets was £0.22 billion and to farm shops was £1.8 billion.

12 Agriculture in the United Kingdom (Defra). Items in the basket are weighted according to their value to farmers. Most weight is given to milk and then other livestock products.
Non-residential catering (restaurants, bars and canteens) had a turnover of £47.9 billion in 2006. GVA in the sector has increased by 39% since 2000 to £21.3 billion in 2006.

Net capital expenditure in non-residential catering has fallen by 33% since 2000 to £2.0 billion. This accounted for almost a quarter of capital expenditure in the food sector in 2006. Employment increased by 12% gradually between 2000 and 2006.

Since 1996 more businesses have been coming into non-residential catering. There were 33,000 more businesses in 2006 registered for VAT. The number of enterprises increased by 23% over this period.

The largest 234 businesses in non-residential catering, accounted for 48% of the sector’s GVA in 2005. 85% or 98,000 businesses were classified as micro, accounting for 28% of GVA.

Source: Annual Business Inquiry (ONS)

14 Department for Business, Enterprise and Regulatory Reform (BERR).
15 Businesses with 0-9, 10-49, 50-249 and 250+ employees are classed as micro, small, medium-sized and large respectively.
According to Mintel the eating out market was worth £30.5 billion in 2007 (excludes alcoholic drinks). Sales in the eating out sector as defined by Mintel grew by 27% between 2002 and 2007.

Pub catering has rejuvenated over the last ten years with more pubs experimenting with restaurant services. Sales grew by 35% between 2002 and 2007, now accounting for nearly a quarter of the eating out market. In 2007 an estimated 8.7 billion meals were served in food service outlets. Of these over 1.1 billion meals were served in pubs, at a cost of £7.3 billion, an average of over three million meals per day.

Restaurant meal sales grew by 36% between 2002 and 2007 and were worth £4.5 billion in 2007.

According to the Expenditure and Food Survey people spent an average of £11.54 per person per week in 2006 on food and drink eaten outside the home. Of this, an average of £3.54 was for alcoholic drinks and £8.00 was for food and non-alcoholic drinks.

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16 Figures for 2007 were forecasted at the time of Mintel’s 2007 report.

17 Horizons for Success (2007).
According to Horizons for Success, education, healthcare and services accounted for 6.6% of food service sales but 28% of meals served outside the home in 2007.

The vast majority of public sector food procurement is by the NHS, schools, prisons and the armed forces.

According to a recent National Audit Office report\textsuperscript{18}, an estimated £1.7 billion was spent on food service procurement in the public sector in 2005, providing around one billion meals. 58% was spent on schools, 29% on the NHS and 13% on prisons and the armed forces. Spend per meal was highest in hospitals and lowest in schools.

\textsuperscript{18} Smarter Procurement in the Public Sector, 2006 (National Audit Office).
The food and drink wholesaling sector had a turnover of £71.8 billion in 2006.

In 2006 net capital expenditure in the food and drink wholesaling sector was £430 million, a fall of 35% since 2000, and only 4.4% of GVA.

Employment in the food and drink wholesaling sector fell by 4.8% between 2000 and 2006.

Since 2003 more businesses have come into food and drink wholesaling. In 2006 1150 more businesses were registered for VAT.

The customer base for wholesalers has shrunk as supermarkets have gained market share forcing non-specialist wholesalers towards consolidation. The number of non-specialists declined by 37% between 1995 and 2006.

19 Wholesaling includes tobacco (SIC 51.35).
21 Department for Business, Enterprise and Regulatory Reform (BERR).
In 2006 food and drink manufacturing accounted for 15% of the UK manufacturing sector with a turnover of £72.8 billion.

Numbers of enterprises, employment and net capital expenditure have been falling in food and drink manufacturing yet the trend of GVA continues to rise. GVA has increased by 13% since 2000 to £21.2 billion.

Since 2000 the number of enterprises and employment in food and drink manufacturing fell by 12% and 16% respectively.

Net capital expenditure has fallen by 5.8% since 2000 to £2.1 billion in 2006 and was 10% of GVA.

An estimated 75% of food manufacturers’ sales go to retailers (some via wholesalers), compared with 10% to caterers and 15% in exports, so manufacturers are subject to strong competitive forces.

Source: Annual Business Inquiry (ONS)

1.13: Trends in the UK food and drink manufacturing sector

The largest 5.4% of enterprises accounted for 75% of GVA in 2005.

22 Food and Drink Manufacturing: An Economic Analysis, September 2007 (Defra).
• Bread, biscuits and cakes is the largest manufacturing group with a GVA of £3.5 billion in 2006, equivalent to 17% of total food and drink manufacturing GVA.

• Alcoholic beverages accounted for 15% of food and drink manufacturing GVA in 2006, an increase of almost a quarter on 2005.

• Meat processing accounted for 14% and confectionery for 9.5% of food and drink manufacturing GVA in 2006.

• Overall the GVA for food and drink manufacturing has increased by 15% between 2000 and 2006.

• Grain milling and starch has had the largest increase in GVA since 2000, increasing by 38%.

• The GVAs for oils and fats, meat processing and fish processing have all decreased since 2000.

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25 For disclosure reasons some small contributions (less than 4% overall) to food and drink manufacturing GVA have been treated as zeros.
Chapter 2: Consumer Demand

2.1: UK consumer expenditure on different types of food and non-alcoholic drinks for the household

- UK household consumers spent £29.55 per person per week on all food and non-alcoholic drink in 2006.
- In 2006 UK household consumers spent 23% of their shopping bill on meat at an average of just over £5.00 per person per week out of a total weekly food shopping spend of £21.55. They spent another 23% on fruit and vegetables, and 11% on sugar and sweet products at nearly £2.50 per person per week.
- UK household consumers spent £8.00 per person per week on food and non-alcoholic drink eaten out in 2006. This is 21% of their total food spend but gave them only 11% of their calorie intake.
- The percentage spent on eating out has remained around the same since 2001 at 21% but the amount of food eaten out has fallen by 11% (measured in calories).

Source: Expenditure and Food Survey (EFS), 2006 (Defra/ONS)
Consumer Demand

2.2: UK trend in the quantity of different foods eaten out between 2001/02 and 2006

- Eating out includes restaurant meals, canteen meals and fast food outlets as well as all other food not brought into the household.

- Overall the quantity of food eaten out has dropped by 6.9% since 2001. Traditional foods such as fresh and processed potatoes and meat and meat products are 18% and 13% lower respectively.

- Oriental cuisine continues to gain popularity. Indian, Chinese and Thai meals rose by a third between 2001/02 and 2006.

- Over 20% of the amount of food eaten out is recorded as unspecified meals. The amount has fallen 10% since 2001 but may hide a shift from free work meals to purchased pub meals.

- The food service sector is broadly estimated to provide around 1 in 6 of all meals consumed.\(^{26}\)

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\(^{26}\) Food Service and Eating Out: An Economic Survey, January 2007 (Defra).
The number of consumers saying they would pay a premium for branded products and quality ingredients is declining. Paying a premium for own brand products is also in decline.

The number of consumers saying they would pay a premium for fair trade and local produce is increasing. In 2007 18% said they would pay more for fair trade produce and 21% said they would pay more for local produce.

A Nielsen Global Consumer Survey in 2006 found that the most important factor in purchasing is taste; 98% of people agreed that taste/flavour was very important or somewhat important. Price was cited by 94%, health by 93% and nutrition by 92%. Other factors scored less highly.

Source: What next for premium, 2007 (IGD)
Consumer Demand

2.4: Definition of local that best fits respondents' understanding of the term 'local food', 2007

- While 21%\(^\text{28}\) of people said they are prepared to pay a premium for local food in 2007, people’s understanding of the term ‘local food’ varies considerably.

- In 2007 over 40% of people said local food is from within a ten-mile radius. An equal number preferred to think in terms of counties or regions.

- In 2007 over 50% of people said that the main reason why it is important to buy local food is to help local businesses and the local economy.

- In 2007 12% of people said it is important to buy local food to reduce air miles. 9% of people said it is important to buy local food to reduce pollution.

- In 2007 18% of people said it was important to buy local food as you know where the producers are.

\(^{28}\)“What next for premium”, 2007 (IGD).
Sales of ethical food, including organic, fairtrade, free-range and freedom foods (an assurance scheme for high animal welfare standards) account for 5.1% of the shopping basket.

Over a third of ethical food sales were organic in 2006. Sales of organic food rose by nearly 20% in 2006 to £1.7 billion.

Sales of fairtrade produce increased by 46% between 2005 and 2006 and now account for 8.0% of ethical food sales.

The combined value of free range and organic egg sales exceeded that of caged eggs in 2005. Mintel estimates that one in three eggs consumed are now free-range.30

In a survey in 2007 a third of people agreed that it is worth paying more for organic food but over 70% say they don’t buy because it’s too expensive.31

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29 Excludes food and drink boycotts.
31 Organics, 2007 (Mintel).
**Consumer Demand**

2.6: UK trend in retail sales of emerging ethnic foods, 2002 - 2006

- Retail sales of emerging ethnic foods (all categories in the chart) have increased by 57% since 2002 to £180 million in 2006.

- Retail sales of Thai food grew 36% between 2002 and 2006 and are now worth £68 million.

- It is difficult to place a value on the ethnic foods market because it covers a wide and subjective range of categories, from ready meals to ingredients. In 2006, it was estimated at £1.1 billion, growing around 1% each year, with chilled ready ethnic meals accounting for almost £0.5 billion.\(^\text{32}\)

- The main reason for choosing ethnic food is as a favourite (21% of individual meal occasions) and fancied a change (16% of individual meal occasions).\(^\text{32}\)

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\(^{32}\) Taylor Nelson Sofres Worldpanel 52 w/e 13 August 2006 & Focus on World Cuisine, 2006 (The Grocer). Categories covered were chilled ethnic ready meals, total rice, ethnic cooking sauces, naan bread, pitta bread, noodles, poppadoms, soy sauce and prawn crackers.
## Consumer Demand

### 2.7: Attitudes to healthy eating

<table>
<thead>
<tr>
<th>% trying to reduce their consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food containing fat (e.g. fried foods, crisps, butter, mayonnaise)</td>
</tr>
<tr>
<td>Food containing sugar (e.g. biscuits, sweets, chocolate)</td>
</tr>
<tr>
<td>Salt (either in food product, added in cooking or added at the table)</td>
</tr>
<tr>
<td>Drinks containing sugar (e.g. fizzy drinks, squash, sugar in tea/coffee)</td>
</tr>
<tr>
<td>Alcoholic drinks</td>
</tr>
<tr>
<td>Ready meals</td>
</tr>
<tr>
<td>Foods high in additives / preservatives/ e numbers</td>
</tr>
<tr>
<td>Processed food (e.g. meat, cheese)</td>
</tr>
</tbody>
</table>

Source: Consumer Attitudes to Food Standards, 2007 (FSA)

- In 2007 93% of people said that health is very or somewhat important when buying food.\(^{33}\)
- Fat and saturated fatty acids concern people the most with 25% saying that they are trying to reduce their consumption.
- Foods containing sugar are the second greatest concern with 20% of people saying they are trying to reduce consumption.
- Over a third of people with children say they are trying to reduce their children’s consumption of foods containing sugar.
- Mintel estimates that the fast food sector grew by 73% between 1995 and 2005 but that growth has tailed off due to the trend for healthier eating.\(^{34}\)

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\(^{33}\) Nielsen Global Consumer Survey, October 2006, UK results.

\(^{34}\) Eating Out 10 Year Trends, 2006 (Mintel).
Chapter 3: Food Supply & Prices

3.1: Trend in world food production per capita measured in calories per person per day, 1961-2003

- World food production measured in calories per capita per day has increased steadily since 1961. Calories per capita was 2254 kcals per person in 1961. In 2003 it was 25% higher at 2809 kcals per person.

- Growth in the productive potential of global agriculture has so far been more than growth in effective demand.

- The world population is currently growing 1.2% per year, and was 25% higher in 2006 than in 1990. Food production is growing at a faster rate, and is 40% higher than it was in 1990.

- According to the FAO, growth in agricultural production will continue to be greater than growth in the world population. The extent to which production can increase without significant damage to the natural environment is not clear.

Source: FAO balance sheets & FAO production indices


36 World agriculture: towards 2030/2050 interim report (FAO)
Since the 1970s, real commodity prices have moved downwards as global supply has outpaced global demand.

In 2007 and early 2008 commodity prices increased and there are suggestions that the longer term downward trend has come to an end.

In March 2008 the price of wheat was double that of March 2007. By June 2008 the year on year increase had fallen to 59%.

The price of rice peaked in April 2008 at over triple its level of April 2007. In June 2008 it was 2.6 times its level in June 2007.

The price of palm oil peaked in March 2008 at twice its level in March 2007.

There are over 800 million chronically hungry people in the world. At the same time there are over 1 billion people who are overweight.

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37 ‘Winning the war on hunger’, World Food Programme (WFP), World Health Organisation (WHO).
Since 2000 global stock levels of crops have declined mainly (but not only) due to reduced stocks in China.

In 2007/08 the global stock of wheat was estimated to be 59% of its level in 2000. For rice it was 54% and for coarse grains it was 78%.

With low stocks, markets become sensitive to further supply shortfalls, which magnifies the price response.

Trade is increasing. World imports of food and agricultural products, by cost, increased by 45% between 2002 and 2005.
Self-sufficiency is calculated as the value of production of raw food divided by the value of raw food for consumption. It is a measure of agriculture’s competitiveness rather than food security, which is a more complex issue.39

- Self-sufficiency was 61% in all food and 74% in indigenous type food in 2007.
- Self-sufficiency declined after 1995, shaped by the high level of the pound compared to the euro, the impact of outbreaks of disease and the beef export ban introduced in 1996.
- Since 1995 self-sufficiency in all food has decreased by 15% or 11 percentage points. It increased by 1 percentage point in 2007 due to the increased value of domestically produced milk, oilseed and cereals.

3.5: Origins of food consumed in the UK by unprocessed value, 2006

Based on the farm-gate value of unprocessed food

Source: Defra analysis of HMRC overseas trade statistics
3.5: Origins of food consumed in the UK by unprocessed value, 2006 (continued)

- Sourcing food from a diverse range of stable supplying countries, in addition to domestically, enhances food security.40

- In 2006, 26 countries together accounted for 90% of UK food supply, up from 22 countries in 1996.

- Just under half of this was supplied domestically from within the UK (49%).

- After the UK, the leading suppliers were the Netherlands (6.7%), Spain (5.8%), France (3.9%), Ireland (2.6%) and Germany (2.5%), all of whom are members of the EU and close trading partners.

- In 2006 the UK and five other European countries accounted for around 70% of total UK food supply.

- The distribution of UK imports at continental level has changed relatively little over the last 15 years.

- The supply diversity differs across sectors. Although 26 countries (including the UK) accounted for 90% of supply of all food valued on a raw food basis in 2006:

  - 22 accounted for 90% of fruit and vegetable supply,
  - 4 accounted for 90% of meat and meat preparation supply,
  - 4 accounted for 90% of dairy product and birds egg supply,
  - 9 accounted for 90% of supply of cereals and cereal preparations (including rice).

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40 Food Security and the UK: An Evidence and Analysis Paper, December 2006 (Defra).
Food Supply & Prices

3.6: Trend in UK imports and exports of food, feed and drink 1988 - 2007

- The value of imports of food, feed and drink is greater than the value of exports. The bars represent the trade gap. The gap has widened in more recent years as shown by the increased bar size.

- The value of imports in 2007 was £26.6 billion compared to £11.4 billion for exports, giving a trade gap of £15.2 billion. In 2007 imports increased by 2.6% in real terms.

- Exports peaked in 1995 where the bottom of the bars is the highest, and then fell back until 2001 due to increased strength of sterling, BSE, lower world commodity prices and foot and mouth disease. In 2007 exports were 21% lower in real terms than in 1995.

- Since 2000 UK imports of food, feed and drink showed a real terms increase of 30%.

- Since 1995 the UK trade gap in food, feed and drink has widened by 80%.

*Source: Defra analysis of HMRC overseas trade statistics*
The value of imports is greater than the value of exports in each of the eleven broad categories of food, feed and drink except ‘Drink’ which has a trade surplus of £0.1 billion in 2007.

The group for which the UK has the largest trade deficit is fruit and vegetables. In 2007 the value of imports was £6.4 billion giving a trade gap in fruit and vegetables of £5.8 billion.

The second largest groups in terms of imports in 2007 were meat and drink with imports of £4.1 and £4.0 billion respectively.

Drinks are the largest export category by far with a total export value of £4.1 billion in 2007, of which around 75% is Scottish Whisky. Cereals and fish are the groups with the next largest export values with £1.4 billion and £1.0 billion respectively.

Source: Defra analysis of HMRC overseas trade statistics
Healthy foods often cost more per calorie. Brown bread is more expensive than white bread. Fresh meat is more expensive than processed meat. The retail price of food provides the first indication of changes in affordability of a healthy diet.

Food prices declined in real terms by 12% between 1998 and 2006. In August 2007 food prices started to rise in real terms. By July 2008 food prices had returned to their real terms level of January 2004.

The annual rate of inflation in July 2008 was 12.2% for food and 5.0% for all items in the retail price index basket, giving a real terms rise of 6.8% over the year. (The annual rate of the CPI was 4.4%.)

Prices of some types of food rose substantially in the year to July 2008: bread 20%, pork 25%, poultry 24%, butter 37%, eggs 36%, milk 19%, fruit and vegetables 10%.
A healthy diet became more affordable between 1998 and 2007 with food prices rising by less than all items inflation. Only alcoholic drinks and catering prices rose by more than general inflation.

The prices of meat, fruit, other food, vegetables, potatoes, butter and oils became relatively cheaper than other types of food and drink between 1998 and 2007.

More fruit and vegetables are required for a healthier diet and these became relatively cheaper compared to RPI food between 1998 and 2007.

Fewer foods high in sugar and less dairy produce are required for a healthier diet; confectionery, soft drinks, milk, cheese and eggs all became more expensive relative to other types of food and drink between 1998 and 2007.

Source: Retail Price Indices (ONS)
Food Supply & Prices

3.10: UK trend in the price of fruit and vegetables, 1998-2008

- Fruit prices are volatile and seasonal but on average rose by 2.7% between 2004 and 2006 and by a further 0.27% in 2007.

- Vegetable prices are volatile and seasonal but on average rose by 8.7% between 2004 and 2006 and a further 0.82% in 2007.

- Low income households tend to purchase less than the average amount of fruit and vegetables. In 2006 low income households consumed an average of 3.5 portions of fruit and vegetables per person per day, compared to an overall average of 3.9 portions.41

- There are signs of increasing purchases of fruit and vegetables by low income households since 2004. Purchases rose 4.2% in 2005 and a further 1.8% in 2006.41

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41 Expenditure and Food Survey (EFS) 2006 (Defra/ONS).
For 29% of the low income population access to enough food was limited by factors such as lack of money or other resources (e.g. storage facilities, transport) at some time during the previous year.

Among those who said that they sometimes or often did not have enough to eat, not having enough money for food was cited most frequently, across all household types, as the reason why (98%).

Food insecurity\(^2\) was reported more often for working adults living alone and for adults and children living in households containing one adult and one or more children.

Of the low income population 36% indicated that they could not afford to eat balanced meals.

Of the low income population 22% reported reducing or skipping meals, and 5% reported not eating for a whole day because they did not have enough money to buy food.

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\(^2\) Food Security and the UK: An Evidence and Analysis Paper, December 2006 (Defra).
On average food accounted for 10.3% of all household expenditure in 2006. For low income households food accounted for 15.5%, having declined slowly since 2003/04. This indicates that food is exerting less pressure on the budget of low income households than in previous years.

Since 1998 the average income of low income households has risen by 16% while food prices have risen by 9.6%.43

Low income households tend to buy more bread and cereals, tea, coffee and soft drinks, milk, cheese and eggs, sugar and confectionery and butter and margarine.

Low income households tend to buy less meat and bacon, vegetables, fruit and other foods.

Food inflation has a similar effect on low income households even though their pattern of purchases varies from all households.

43 Households Below Average Income (HBAI), Department for Work & Pensions (DWP).
Total GHG emissions from the food chain were estimated to be around 160 million tonnes of CO₂ equivalent in 2006. Emissions from UK economic activity were 724 million tonnes.

In 2006 UK farming and fishing accounted for a third of emissions from the food chain. Most of these emissions are due to enteric fermentation in ruminating animals and from the oxidisation of nitrogen in fertilisers.

Around 25% of GHG emissions in the UK food chain are attributed to net trade.

The external cost of greenhouse gas emissions from the UK food chain is estimated at £4 billion.

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GHG emissions from food packaging, food waste and land use change are not included. Manufacturing includes emissions from electricity use and excludes emissions from road freight transport. Household does not include emissions from heating water for washing up or dishwashers.

Net trade covers emissions related to the production but not transportation of food imports, net of emissions related to the production of food exports.

‘How to use the shadow price of carbon in policy appraisal’, 2007 (Defra).
GHG emissions by UK households from food shopping, storage and preparation rose by around 14% between 2002 and 2006, to 20,600 kt CO₂. Almost half of this increase was due to shopping by car, which rose by 46% to 3,900 kt CO₂ in 2006.

Emissions from electric cooking have increased by 14% since 2002 to an estimated 6,900 kt CO₂ in 2006 despite consumption of electricity for cooking remaining relatively stable at 1.1 million tonnes of oil equivalent. This can be explained by the production of electricity in the UK becoming more carbon intensive.

Food related GHG emissions from UK households as a proportion of all food related GHG emissions, rose from 11% in 2002 to 13% in 2006.

WRAP estimate that 18,000 kt CO₂ are emitted each year due to avoidable food waste, the equivalent of one fifth of the emissions from cars on our roads.

47 Household does not include emissions from heating water for washing up or dishwashers.
48 ‘The food we waste’, 2008 (WRAP). See 4.5
Since 1990 the food and drink manufacturing sector has cut CO₂ emissions from its use of fossil fuel by 18% to around 9 million tonnes in 2006. This has been offset by increased output leading to an increase in the use of electricity obtained from the electricity generators.

The net result is that since 1990 there has been a 10% cut in CO₂ from energy to around 16 million tonnes in 2006 as a result of actions taken by food manufacturers (as opposed to those by the electricity generators).

Overall, UK manufacturing has reduced CO₂ emissions from energy use since 1990 by 13% to 167 million tonnes in 2006. Total domestic CO₂ emissions have declined by 6.4% to around 555 million tonnes in 2006.

Source: Defra & Environmental Accounts (ONS)

49 Manufacturing figures include the share of CO₂ emissions relating to electricity production using a constant emission factor. Total domestic CO₂ emissions include net emissions/removals from land use and land use change but with no allowance for EU Emission Trading Scheme purchases.
4.4: Trends in acid rain precursor emissions\textsuperscript{50} from UK food and drink manufacturing\textsuperscript{51} to 2006

- Acid rain precursor emissions include sulphur dioxide (SO\textsubscript{2}), nitrogen oxides (NO\textsubscript{x}) and ammonia (NH\textsubscript{3}).

- Total acid rain precursor emissions from food and drink manufacturing have fallen by 76\% since 1990 and 6.8\% since 2005 to 22.86 kilotonnes of SO\textsubscript{2} equivalent (kt SO\textsubscript{2}e) in 2006\textsuperscript{52}.

- In 2006 nitrogen oxides accounted for 85\% of all acid rain precursor emissions from food and drink manufacturing. Sulphur dioxide and ammonia accounted for around 8\% and 6\% respectively.

\textsuperscript{50} Emissions that cause acid rain.
\textsuperscript{51} Includes road freight transport but excludes electricity use.
\textsuperscript{52} The emissions are weighted together using their relative acidifying effects. The weights, given relative to SO\textsubscript{2}, are 0.7 for NO\textsubscript{x} and 1.9 for NH\textsubscript{3}. This is a simplification of the chemistry involved and there are a number of factors which can affect the eventual deposition and effect of acid rain.
4.5: Avoidable household food waste (excluding drinks) as a percentage of purchases by weight and cost, 2007

- UK households waste an estimated 6.7 million tonnes of food every year, roughly one third of food purchased. Some 61% or 4.1 million tonnes of this waste is avoidable. Less than one fifth or 1.3 million tonnes is truly unavoidable.

- Nearly half of the avoidable food we throw away is fresh or minimally processed, an additional 27% cooked or prepared in some way and 20% ready to consume when purchased. Nearly one quarter of avoidable food waste is thrown away whole or unopened. At least 8% of all avoidable food waste is in date at the point of disposal.

- Salad items are the most likely avoidable foods by weight and cost, with an estimated 45% of these items being thrown away by weight and 60% by cost. An estimated 31% of bakery items are thrown away by weight and cost and more than one third of the cost of fruit.

Source: ‘The food we waste’, 2008 (WRAP)

Avoidable food waste could have been eaten if we had planned, stored or managed better. Unavoidable food waste is food that the vast majority of people would not eat, such as banana skins. The remainder is food some people choose not to eat such as bread crusts.
Nearly a third by weight and 30% by cost of all avoidable food waste is thrown away because it is left over on the plate.

Nearly a quarter of avoidable food waste in terms of cost is thrown away because the ‘use by’ or ‘best before’ date has expired; this equates to a fifth of avoidable food waste by weight. Research\textsuperscript{55} by the Food Standards Agency shows that food dates are poorly understood by consumers, with 36% interpreting ‘best before’ dates as ‘use by’ dates.

Around 11% by weight and 9% by cost of all avoidable food waste is thrown away because it looks bad. A similar amount is thrown away because it is mouldy.

Salad items are the most common avoidable food waste.\textsuperscript{56} Almost half of salad items by weight were thrown away because they were out of date.

\textsuperscript{53} Collected from diaries completed by 287 households.

\textsuperscript{54} Consumer Attitudes to Food Standards, 2007 (FSA).

\textsuperscript{55} See 4.5.
Total energy use by the UK food chain is estimated to have been around 43 million tonnes of oil equivalent in 2006.

In 2006 farming and fishing accounted for around 6% of energy used within the UK food chain compared with a third of greenhouse gas (GHG) emissions.

According to DUKES in 2006 natural gas accounted for over two thirds of total energy consumption in food and drink manufacturing, followed by electricity at 28%, petroleum at 7.6% and coal at 0.5%.

According to DUKES since 1996 energy consumption in food and drink manufacturing has decreased by 11% mainly due to declining petroleum and coal consumption with reductions of 54% and 93% respectively.

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57 Household does not include emissions from heating water for washing up or dishwashers. Primary energy is the energy used in electricity production, not the amount of electricity used.

58 See 4.1.

59 Digest of United Kingdom Energy Statistics (BERR). Data excludes energy used to generate heat for all fuels except manufactured solid fuels and electricity.
4.8: Four indicators measuring the external impact of food transport for UK consumers to 2006

- The indicators provide evidence of increasing urban congestion and increasing effects on climate change but not in damage to road infrastructure.

- Air food kilometres rose by 11% in 2006.

- UK urban food kilometres rose by 6.7% in 2006 driven by an 8.8% increase in UK car shopping. This follows a similar increase in urban food kilometres in 2005.

- HGV food kilometres, including both UK and overseas HGV transport of food for UK consumption, declined by 2.7% in 2006.

- CO₂ from transport of food for UK consumption increased by 2.8% in 2006 primarily due to the increase in car food shopping.

- Reducing the external impacts of food transport is one of the objectives of the Food Industry Sustainability Strategy, a joint initiative between Government and the industry.

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60 Air, urban and HGV are measured in vehicle kilometres, carbon dioxide emissions are measured in tonnes.
In 1996, the first GM seeds were planted in the US for commercial use. In 2007 GM crops were grown on 114 million hectares worldwide, an area roughly the size of France and Germany combined.

The country with the most area of GM crops is the US (58 million hectares) followed by Argentina, Brazil, and Canada. China and India are also high on the list with their rapidly expanding cultivation of GM cotton. In the EU, only GM maize is cultivated covering a total of around 110,000 hectares.

In 2007 GM soy was cultivated on 59 million hectares, unchanged from the year before. Maize increased by 40% in 2007 to 35 million hectares, cotton increased by 12% to 15 million hectares and rapeseed increased by 15% to 5.5 million hectares.

No GM crop has all the approvals needed for commercial cultivation in the UK.

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61 The commercial application of GM plant types remains unchanged in its concentration on soy, maize, cotton and rapeseed.
5.1: The Eatwell Plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.

Source: The Food Standards Agency (FSA)
• The eatwell plate shows the types and proportions of foods that should be eaten to make a well-balanced, healthy diet. The eatwell plate balance does not need to be achieved at every meal, it is a guide to getting the balance right over time such as each day, or over the course of a week. The eatwell plate includes snacks as well as meals.

• We should try to eat:

  - Plenty of ‘fruit and vegetables’ (33%).
  - Plenty of ‘bread, rice, potatoes, pasta and other starchy foods’ (33%). Choose wholegrain varieties when you can.
  - Some ‘milk and dairy foods’ (15%).
  - Some ‘meat, fish, eggs, beans and other non-dairy sources of protein’ (12%).
  - Just a small amount of ‘foods and drinks high in fat and/or sugar’ (8%).

**Comparison of UK household purchases with the eatwell plate, 2006**

Source: Expenditure and Food Survey (EFS) 2006 (Defra/ONS)
• Food and drink categories in the Expenditure and Food Survey were grouped approximately into the five eatwell plate groups\textsuperscript{62}. However, the food that we buy for the household does not fully reflect the food that we eat as it does not account for food eaten out and wasted food.

• According to this limited comparison we are purchasing:
  - less 'bread, rice, potatoes, pasta and other starchy foods' than recommended,
  - more 'milk and dairy foods' than recommended,
  - less ‘fruit and vegetables’ than recommended, although they make up the largest percentage of the UK household diet at 24%,
  - much more ‘food and drink high in fat and/or sugar’ than recommended,
  - the right proportion of ‘meat, fish, eggs, beans and other non-dairy sources of protein’ as recommended by the eatwell plate.

• Overall this limited comparison illustrates the need to shift the overall balance of the diet towards the proportions shown in the eatwell plate, that is with the majority of the diet coming from the fruit and vegetables and starchy food groups.

\textsuperscript{62} Alcohol, low calorie drinks, tea, coffee and mineral water were excluded from ‘beverages’ and ‘soft drinks’. Slimming & sports foods & infant cereal foods were excluded from ‘other cereals and other cereals products’. Only jelly, ice cream and soya foods were included from ‘other food and drink’.
5.2: Trend in household purchases of major foods, 1976 to 2006

- Purchases of milk and dairy have fallen by a third over the last 30 years, falling 7% since 1996.
- Purchases of fresh meat have fallen by 40% over the last 30 years but have remained steady in the last 10 years.
- Purchases of fruit and vegetables have increased by 8% in the last 10 years. This must continue if we are to meet Government targets\(^{63}\).
- Purchases of bread have decreased by 15% and fresh potatoes by 27% in the last 10 years.

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\(^{63}\) See 5.4 & 5.5 for more information on fruit and vegetables.
Since 1974 purchases of fruit and vegetables by all households have increased from the equivalent of 3.0 to 3.9 portions a day in 2006. According to the Health Survey for England the average portions per day is 3.8. This is short of the recommended five portions a day.

Purchases by low income households increased from the equivalent of 3.2 portions per day in 2001 to 3.5 in 2006.

Quantities of fruit and vegetables purchased by all households and by low income households have both risen by 9% since 2001.

In a recent Food Standards Agency survey on consumer attitudes 40% of respondents said they snack between meals and of those, 40% claim to snack on fruit and 1% on vegetables.

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64 In the EFS every portion of fruit and vegetable juice consumed contributes to a person’s 5 A DAY. In the HSE only one portion of juice contributes.

65 Low income households are those with incomes in the lowest fifth of all households. Data on low income households is only available from 2001.

66 Consumer Attitudes to Food Standards, 2006 (FSA). This question was not asked in the 2007 survey.
5.4: Trend in the consumption of fruit and vegetables in men and women to 2006

The proportion of men and women who consumed 5 A DAY increased from 22% in 2001 to 28% in 2006 for men, and from 25% to 32% for women.

In 2006 7.0% of men and 4.5% of women included no fruit and vegetables in their diet.

Intake of fruit and vegetables was highest in women aged 55 to 64 years, who consumed on average 4.5 portions per day in 2006, and lowest in men aged 16 to 24 years, who consumed 3.0 portions per day.

The 2003-05 Food Standards Agency survey of low income consumers found that on average men consumed 2.4, and women 2.5, portions of fruit and vegetables per day. 8% of men and 9% of women met the Government recommendation of 5 A DAY, and 36% of men and 28% of women consumed no fruit at all during the four day survey period.

Data from the Health Survey for England is weighted for non-response from 2003 onwards. Consumption is based on a 24 hour period.

Health

5.5: Trends in intakes of fat, saturated fatty acids, non-milk extrinsic sugars\(^{69}\) and sodium to 2006

- Total fat should contribute no more than 35\(^{70}\) of food energy intake (excluding alcohol). It has been stable since 2001/02 but remains above recommended levels at 38.5% in 2006.

- Saturates should contribute no more than 11% of food energy intake (excluding alcohol). They contributed 14.7% in 2006, the same as in 2001/02. The percentage of food energy obtained from saturates rose by less than the equivalent figure for fat in 2006.

- The percentage of food energy obtained from NMES has been in decline since 2003/04 to 14.2% in 2006, still above the recommended level of 11%.

- In 2006 sodium intake, excluding table salt and allowing 10% for wastage, was estimated to be an average of 2.65 g/person/day. SACN\(^{71}\) recommend 2.40g of sodium including table salt.

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\(^{69}\) NMES – free sugar not bound in foods e.g. table sugar, honey and sugars in fruit juices, but excluding milk sugar.

\(^{70}\) For recommended intakes see Dietary Reference Values for Food Energy and Nutrients in the United Kingdom, 1991 (Department of Health).

\(^{71}\) Scientific Advisory Committee for Nutrition. Equivalent to 6g/day of salt from all sources.
5.6: Source of NMES\textsuperscript{69} in the diet of children aged 4-18

- **Boys** obtained 16.7% of energy intake from NMES in 2000 while girls obtained 16.4%. The recommended level is 11%.

- Soft drinks are the largest source of NMES in the average child’s diet contributing one quarter of intake in 2000. A Food Standards Agency survey\textsuperscript{72} found that children from low income backgrounds get 33% of their intake of NMES from soft drinks.

- Broadly speaking girls and boys get their NMES from the same types of foods.

- Fruit and vegetables contribute less than 2% to the NMES in an average child’s diet. According to the Health Survey for England\textsuperscript{73}, children aged 5 to 15 are eating the equivalent of 3.3 portions of fruit and vegetables a day. 21% are achieving the recommended 5 A DAY.

\textsuperscript{72} Low Income Diet and Nutrition Survey (LIDNS), 2003-05 (FSA). Ages 2-18.
\textsuperscript{73} Health Survey for England (HSE), 2006 (Information Centre). Ages 5-15.
Health

5.7: Source of saturated fatty acids in household supplies, 2006

- In 2006 six food groups accounted for 78% of the saturates we consumed; 18% of saturates came from purchases of fats and oils, half of which came from butter.

- According to the 2000/01 National Diet and Nutrition Survey of adults aged 19-64 years\(^7^4\) saturated fatty acids provided 13.4% of food energy intake for men and 13.2% for women, above the recommendation of no more than 11%.

- As part of its Saturated Fat and Energy Intake Programme, the Food Standards Agency is working to reduce saturated fat intakes to within this recommendation.

- According to a recent review\(^7^5\) by the Food Standards Agency average intakes of trans fats in the UK are just half the 2% maximum recommended intake of our total food energy and therefore not a cause for concern.

\(^7^4\) Ages 19-64 (Expenditure and Food Survey covers all ages).
\(^7^5\) In November 2007, as part of a review of the health impacts of trans fats, the Food Standards Agency made a re-estimate of the trans fatty acids intake in adults using information provided by the food industry on current trans fat levels in processed food categories and consumption data from the 2000/01 NDNS of adults.
5.8: Trends in household purchases of foods contributing to salt intake, 1976 to 2006

Bars have been sorted in descending order of contribution to salt intake.

- Non-carcase meat and meat products contributed 21% of sodium in the average diet in 2006. Over one third comes from bacon and ham. Consumption of these foods has increased by 7.0% in the last 10 years.

- Bread contributed 18% of sodium in the average diet in 2006, 44% coming from white bread. Bread consumption has decreased by 15% in the last decade.

- Processed potatoes and vegetables contributed 9.7% to sodium intake, pickles and sauces 7.9%, cakes, buns and pastries 6.1%, milk and milk products 5.3%, ready meals 5.2%, cheese 4.3% and breakfast cereals 3.5%.

- The Food Standards Agency is working with all sectors of the UK food industry to reduce levels of salt in food.

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76 The word ‘salt’ used here means all sources of sodium expressed as salt equivalents (salt comprises 40% sodium and 60% chloride by weight (1g of sodium ~ 2.5g salt)). Around 75% of the salt eaten in the UK is in the foods we buy; the remaining 25% comes from salt added at the table or during cooking.

77 Bread isn’t considered to be high in salt but is eaten in relatively large amounts hence the contribution it makes to salt intakes.
Health

5.9: Average intake of selected micronutrients in women, 2000/01

- Average intakes of most vitamins and minerals met recommended levels but there was evidence of low intakes of a number of minerals including potassium, magnesium, zinc, iron and calcium.

- Younger women have lower micronutrient intakes than older women. The RNI of iron for women aged up to 50 is higher than that for older women as they have higher requirements due to menstrual losses.

- Between 2003/04 and 2006 average intake across the whole population of some micronutrients has risen:
  - beta carotene rose by 4.3%,
  - fibre rose by 3.7%,
  - vitamin C rose by 3.5%,
  - magnesium by 3.0%, and
  - poly-unsaturates by 2.5%.

Source: National Diet and Nutrition Survey, 2001 (FSA)

78 Reference Nutrient Intake: the intake which is considered sufficient to meet the requirements of 97.5% of the population.

79 The RNI of iron for women up to the age of 50 is 14.8 mg/day. The RNI for older women is 8.7 mg/day.

80 Family Food, A report on the 2006 Expenditure and Food (EFS) Survey (Defra).
5.10: The household diet compared with the eating out diet in 2006

- Eating out includes all food and drink that is not brought into the household. It includes restaurant meals, canteen meals and pub meals (excluding any alcohol purchased).
- Eating out contributes 11.1% of energy intake excluding energy from alcohol.
- Mono-unsaturated fatty acids are higher in the eating out diet. They are found in olive oils, rapeseed oil, fish oils, nuts, milk and some meat and meat products.
- Poly-unsaturated fatty acids are higher in the eating out diet. They are found in vegetable oils and fish oils and some meat and meat products.
- Saturated fatty acids are lower in the eating out diet. They are found in milk and dairy products, meat and meat products, biscuits, cakes and pastries.

Source: Expenditure and Food Survey (EFS) 2006 (Defra/ONS)

81 For recommended intakes see Dietary Reference Values (DRVs) for Food Energy and Nutrients in the United Kingdom, 1991 (Department of Health).
Average energy intake based on food purchases has fallen by 2.4% from 2,409 kcal per day in 2001/02 to 2,351 kcal in 2006.

Energy intake from food and drink recorded as eating out has fallen by 11% since 2001/02, falling 1.3% in the last year.

Since 2001/02 energy intake is based on all food and drink purchases. The downward trend since 1964 is visible in all components of the chart.

Combining year on year changes of estimates on like bases suggests that average energy intake per person is at least 20% lower in 2006 than in 1974.

Despite decreasing energy intake, over-consumption of energy relative to our needs is a major factor in increasing levels of obesity.

Average energy intake in the lowest income decile was 5% lower than the UK average in 2006.
The percentage of food energy intake from saturates is lowest in the Black population (11.5%), but still slightly above the recommended level of 11%. The percentage of food energy obtained from NMES is lowest in the Asian (11.6%) and Chinese (11.8%) populations, above the recommended level of 11%. Intake of NMES is highest in the Mixed (15.5%) and Black (15.3%) populations. Intake of fruit and vegetables is highest amongst the Black and Chinese populations at 4.2 and 4.1 portions a day, still short of the recommended 5 A DAY. Intake of fat varies little across ethnic groups. It is lowest in the Black population accounting for 35.4% of energy from food, just above the recommended level of 35%.

Source: Expenditure and Food Survey (EFS) 2006 (Defra/ONS)

82 Fat, Saturated fat and NMES are measured in terms of the percentage of energy intake. Fruit and vegetable intake is measured in number of grams consumed.
83 NMES (‘added sugar’) – free sugar not bound in foods e.g. table sugar, honey and sugars in fruit juices, but excluding milk sugar.
The prevalence of obesity has more than doubled in the UK in the last 25 years. In 2006 in England 24% of people aged 16 or over and 16% of children were obese.

Obesity levels tend to rise with age. A third of men aged 55 to 64 and over a third of women aged 65 to 74 were obese in 2006. Obesity is lower in the elderly, with 18% of men and 27% of women aged over 75 being obese in 2006.

The lowest levels of obesity are in young adults. In 2006 10% of adults aged 16-24 were obese.

It is predicted that by 2050 over half of the population will be obese.

Obesity is most prevalent in the lowest social classes (particularly in women) and in Scotland and the North East of England.

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84 Body Mass Index (BMI) is a measure of weight relative to height: underweight = less than 18.5kg/m², normal = 18.5 to less than 25kg/m², overweight = 25 to less than 30kg/m², obese = 30kg/m² or more (includes morbidly obese), morbidly obese = 40kg/m² or more.

85 See 5.15.
### 5.14: Obesity and health

<table>
<thead>
<tr>
<th>Condition</th>
<th>Risk Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 Diabetes</td>
<td>20 fold</td>
</tr>
<tr>
<td>Hypertension</td>
<td>5 fold</td>
</tr>
<tr>
<td>Coronary Heart Disease (CHD) &amp;</td>
<td>2.4 fold, 2</td>
</tr>
<tr>
<td>Stroke</td>
<td>fold</td>
</tr>
<tr>
<td>Cancer</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Source:** Foresight, Tackling Obesities: Future Choice – Project Report, 2007 (Department of Health)

- The rise in obesity has been attributed, in part, to the fact we live in an obesogenic environment, eating more energy rich foods and exercising less.
- Several health conditions are associated with being overweight or obese, including type 2 diabetes, hypertension, CHD, stroke and cancer. It also increases the risk of other conditions including arthritis and infertility.
- Obesity is expected to increase the incidence of type 2 diabetes by 70%, stroke by 30% and coronary heart disease by 20% by 2050.
- The costs of obesity are very likely to grow significantly in the next few decades. Apart from the personal and social costs such as morbidity, mortality, discrimination and social exclusion, there are significant health and social care costs associated with the treatment of obesity and its consequences, as well as costs to the wider economy arising from chronic ill health.
Health

5.15: The cost of diet-related ill health

Diet-related ill health is placing a significant burden on the NHS, care services and the economy at large. The following information suggests that the cost burden of diet is considerable:

• It is estimated that if our diet matched the national nutritional guidelines the health benefits would be £19.9 billion each year in quality-adjusted life years.86

• An independent study87 estimated that food-related ill health cost the NHS £6 billion in 2002 (9% of NHS costs), which pro rata in 2007 would be £7.7bn86

• Another study88 estimated that malnutrition costs public services at least £7.3 billion, including hospital treatment costs of £3.8 billion and long-term care of £2.6 billion.

• The House of Commons Health Select Committee89 estimated that the total annual cost of obesity and overweight for England in 2002 was nearly £7 billion. This included 2.3% - 2.6% of the NHS bill for direct treatment, the cost of dependence on state benefits, and indirect costs such as loss of earnings and reduced productivity, including 45,000 lost working years. Welfare payments for the obese have recently been estimated at between £1 billion and £6 billion a year, excluding social care.

• The Department of Health’s projections90 for the prevalence of obesity in the UK imply an increase in obesity-related health costs in the decades ahead.

86 Food: analysis of the issues, The Strategy Unit, August 2008 (Cabinet Office).
87 Rayner et al (2005), The burden of ill health in the UK, BMJ.
88 British Association for Parenteral and Enteral Nutrition (BAPEN), 2006.
89 House of Commons Select Committee, 2002.

- In 2007 60% said they were confident in the current measures taken by all organisations involved in protecting health with regards to food safety. Confidence has increased from 48% to 60% in the last seven years.

- The public need to be confident that sufficient checks are carried out and that food safety management is improving. There is a legal requirement for all food businesses to put in place, implement and maintain procedures based on food safety management (HACCP) principles. For farmers this includes improving hygiene on the farm and ensuring that human health is not put at undue risk through what is fed to animals. Vigilance is also essential for imported foodstuffs.

- The Food Standards Agency oversees local authority enforcement activities for food law. It sets and monitors standards and audits local authorities' activities.
Food Safety

6.2: Trends in the percentage of people concerned about certain food issues, 2001-2008

- In March 2008 71% of people surveyed reported that they were concerned about food safety issues.
- 54% were concerned about food poisoning such as Salmonella and E.Coli, a drop of 7 percentage points on March 2001.
- 40% were concerned about additives in food such as preservatives and colouring, unchanged on March 2001.
- 37% were concerned about the use of pesticides to grow food, a drop of 11 percentage points on March 2001.
- 32% were concerned about the feed given to livestock, a drop of 26 percentage points on March 2001.
- 28% were concerned about BSE\textsuperscript{91}, a drop of 29 percentage points on March 2001.
- 28% were concerned about GM foods, a drop of 15 percentage points on March 2001.

\textsuperscript{91} Bovine Spongiform Encephalopathy.
Since the BSE / vCJD\textsuperscript{92} scares in the 1990s, the food and farming industry has worked hard to increase consumer assurance through certification and traceability schemes. These are not limited to health and safety concerns, but capture a range of consumer concerns, such as standards for animal welfare and the environment.

Food with the Red Tractor logo has been produced by an alliance of farmers, processors, retailers and distributors who have worked together to maintain and raise production standards.

Since the first quarter of 2003 baseline value of £4.0 billion there has been a year on year increase in the value of sales of food with the Red Tractor logo.

In 2006/07 the value of food packed with the Red Tractor logo reached £6.4 billion, 22\% above the 2006/07 target figure of £5.2 billion.

\textsuperscript{92} Variant Creutzfeld-Jacob disease (vCJD) is a fatal degenerative brain disease linked to the consumption of Bovine Spongiform Encephalopathy (BSE) infected material.
Food Safety

6.4: Deaths directly attributable to food in the UK 2006

- The biggest food safety issue currently is foodborne illness. There are around 500 deaths from food poisoning each year. Many cases of food poisoning are not reported.

- Between 1999 and 2006 there were 48 deaths from allergic reactions to food in the UK. The number of people with food allergies is increasing; there are currently 1.5 million sufferers in the UK (1-2% of adults and 5-8% of children).

- In 2005 there were five deaths from vCJD\textsuperscript{94}. Levels of BSE in UK cattle have declined significantly. At the peak of the epidemic in 1992, there were nearly 37,000 confirmed cases from passive surveillance. In 2007 this had fallen to 53 confirmed cases from active and passive surveillance.\textsuperscript{95}

\textsuperscript{93} Mortality Statistics Series DH2 No 32 (ONS).

\textsuperscript{94} Variant Creutzfeld-Jacob disease (vCJD) is a fatal degenerative brain disease linked to the consumption of Bovine Spongiform Encephalopathy (BSE) infected material.

\textsuperscript{95} Defra / Veterinary Laboratories Agency. Passive surveillance is where suspect stock is slaughtered and then tested. Active surveillance is where the most susceptible stock is tested after it has been slaughtered, and where stock is tested after dying on the farm.
6.5: Trend in the estimated number of cases of food-borne illnesses in England and Wales, 2003-2006\textsuperscript{96}

![Graph showing trend in food-borne illnesses from 2000 to 2006]

Source: Chief Scientist's Report, 2006/7 (FSA /Health Protection Agency)

- There were 299,900 cases of Campylobacter in 2006 making it the most prevalent foodborne illness. Cases of Campylobacter have decreased by 17% since 2000.

- Listeria is a less common cause of food poisoning but more deadly. Cases of Listeria have doubled since 2000, but have been steady at around 400 per year since 2003.

- In 2006 there were 34,700 cases of Salmonella non-typhoidal, 17% fewer than in 2000. Since 2000 Salmonella contamination of UK-produced retail chicken has reduced by 50%.

- Although cases of E.coli O157 decreased in 2003 and 2004, they had risen to 1,100 in 2006, 10% higher than in 2000.

- The total cost (to the NHS, individuals and loss of earnings) in England and Wales of foodborne illness is estimated to have decreased from £1.7 billion in 2006 to £1.5 billion in 2000.

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\textsuperscript{96} Estimates of cases occurring in the community, as opposed to lab-confirmed reported cases. Salmonella, campylobacter, E. coli O157 and Listeria monocytogenes have been identified by the FSA as the four major pathogens. Estimates have been rounded to the nearest ten or one hundred.
Food Safety

6.6: Contamination incidents investigated by the Food Standards Agency (FSA) by type\textsuperscript{97}, 2007

- The total number of contamination incidents increased from 421 in 2000 to 1,344 in 2006 before falling to 1,312 in 2007.
- The increase in recorded incidents can be attributed to improved reporting and recording systems for incidents within the FSA, wider definitions of an incident, implementation of European regulation\textsuperscript{98} and improved engagement with stakeholders\textsuperscript{99}.
- Environmental contamination such as fires, spills and leaks accounted for 17% of contamination incidents reported in 2007. Natural chemical contamination such as mycotoxins, and algal toxins accounted for 16%. Microbiological and on-farm contamination each accounted for 12%. Physical contamination such as a piece of glass accounted for 9.4%.

\textsuperscript{97} ‘Other’ includes labelling documentation, veterinary medicines, use of an unauthorised ingredient, pesticides etc. Microbiological contamination is the main cause of food poisoning.


\textsuperscript{99} Local authorities, industry, the blue light services and other Government departments and agencies.
6.7: Number of adverse samples found in imported food by type, 2007

- Labelling and claims and mycotoxins were the most common problems in imported foods sampled in 2007.
- In 2007 non-UK products accounted for 92% of food alerts in the UK, and 9 of the top 10 source countries were outside the EU.
- In 2006/7 1,082 commercial consignments were rejected on food safety grounds out of the 327,534 that entered UK ports.
- In 2006 a large recall of 600 products was instigated after chilli powder imported from India was found to contain the banned dye Sudan I, a known carcinogen. The cost to business of the recall has been estimated at £100m. The Sudan I case illustrated how a contaminated ingredient can find its way into many different food products.

Source: Key Findings of the Imported Food Sampling & Surveillance Grants 2007/08 (FSA)

100 The food sampling was targeted at foods most likely to be affected by the specific areas of concern e.g. nut products were tested for mycotoxins. ‘Microbiological contamination’ is the main cause of food poisoning. ‘Additives’ includes the presence of non-permitted substances and non-labelling of permitted substances. ‘Labelling and claims’ includes nutritional composition and claims such as ‘organic’. ‘Other’ includes pesticides, veterinary medicines and natural, process and organic contaminants.

101 Food Standards Agency (FSA) / British Broadcasting Corporation (BBC) news.
Chapter 7: Regional Results

7.1: Food sector gross value added by UK country and region in 2005\textsuperscript{102}

- Food sector GVA is highest in London at £11.1 billion in 2005. GVA is lowest in Northern Ireland, North East and Wales.

- The largest increases in food sector GVA in 2005 were in Northern Ireland (15%) and the South East and Wales (both 2.9%). The largest decreases were in South West (6.4%) and North East (5.7%). In most regions food and drink manufacturing drove the changes.

- GVA of non-residential catering is highest in London at £5.1 billion.

- GVA of retailing is highest in London and the South East at £3.1 billion each.

- GVA of manufacturing is largest in Scotland (£2.8 billion), North West (£2.8 billion), Yorkshire and the Humber (£2.6 billion).

\textsuperscript{102} For disclosure reasons some small regional contributions to GVA have been treated as zeros.
7.2: Food sector GVA per capita by region in 2005

- GVA per capita of the food and drink sector is highest in London at £1,484 per person in 2005 and lowest in North East at £908.

- GVA per capita of non-residential catering is highest in London at £681 per person in 2005 and above average in the South East at £358 and West Midlands at £389.

- GVA per capita of retailing is highest in East of England at £428 per person in 2005 and London at £419.

- In 2005 the GVA per capita of food and drink manufacturing was highest in Scotland at £556 per person, followed by East Midlands at £521 and Yorkshire and the Humber at £504. It was very low in London at £141.

103 For disclosure reasons some small regional contributions to GVA have been treated as zeros.
Almost a quarter of the GVA of processing and preserving of fruit and vegetables occurs in the East Midlands. Around half of the GVA in processing and preserving of fish occurs in Scotland. Over a quarter is in Yorkshire and the Humber. The East of England is where 16% of the GVA of the production and preserving of meat occurs. It accounts for around a third of the GVA of food and drink manufacturing in the East of England. Scotland is where 46% of the GVA of manufacturing of beverages occurs. Beverages accounts for about half of Scottish food and drink manufacturing. South West is where 27% of the GVA of manufacture of dairy products occurs. Dairy accounts for 19% of GVA of food and drink manufacturing in the South West. East Midlands is where 38% of the manufacture of grain mill products occurs. GVA of manufacture of other food products is highest in the North West and Yorkshire and the Humber.

Source: Annual Business Inquiry (ONS)

104 For disclosure reasons some small regional contributions to GVA have been treated as zeros. Data for 2005 could not be published as this problem was too widespread. Other food products include bread, cakes, biscuits, sugar, confectionery, condiments and processing of tea and coffee. The only recorded manufacture of vegetable and animal oils and fats is in Yorkshire and The Humber.
### Regional Results

#### 7.4: Regional household consumption of fruit and vegetables April 2003 to December 2006\(^{105}\)

<table>
<thead>
<tr>
<th>Region</th>
<th>Average portions per person per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Ireland</td>
<td>3.0</td>
</tr>
<tr>
<td>Scotland</td>
<td>3.3</td>
</tr>
<tr>
<td>North East</td>
<td>3.3</td>
</tr>
<tr>
<td>North West</td>
<td>3.5</td>
</tr>
<tr>
<td>Yorkshire and The Humber</td>
<td>3.5</td>
</tr>
<tr>
<td>Wales</td>
<td>3.6</td>
</tr>
<tr>
<td>West Midlands</td>
<td>3.6</td>
</tr>
<tr>
<td>East Midlands</td>
<td>4.0</td>
</tr>
<tr>
<td>Eastern</td>
<td>4.2</td>
</tr>
<tr>
<td>London</td>
<td>4.3</td>
</tr>
<tr>
<td>South East</td>
<td>4.2</td>
</tr>
<tr>
<td>South West</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Source: *Family Food, A report on the 2006 Expenditure and Food Survey (EFS) (Defra)*

- Purchases of fruit and vegetables (excluding potatoes) were lowest in Northern Ireland, equivalent to 3.0 portions per person per day.
- Purchases of fruit and vegetables (excluding potatoes) were highest in the South West and the South East at an equivalent of 4.3 portions per person per day.
- Amongst the four UK countries, household purchases of fruit and vegetables (excluding potatoes) were highest in England at 3.9 and lowest in Northern Ireland at 3.0.
- Within England, household purchases of fruit were lowest in the North East, and household purchases of vegetables were lowest in the North West.

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\(^{105}\)These estimates do not allow for the exclusion of multiple portions of fruit juice from 5 A DAY.

\(^{106}\)It is recommended that people eat at least five 80 gram portions of a wide variety of fruit and vegetables a day, excluding potatoes.
The Expenditure and Food Survey (EFS) records purchases of alcoholic drinks, which are converted into alcohol content. Estimates are subject to mis-reporting which may vary across the regions.

According to the EFS alcohol intake is highest in the North East at 12.5 grams per person per day and lowest in London and Northern Ireland at 7.7 and 7.9 grams per person per day respectively.

Eating out accounted for 40% of alcohol intake in Yorkshire and the Humber but only 27% in the South East.

The National Diet & Nutrition Survey 2000/01 reported no significant regional differences for men or women in average daily alcohol intake or in the proportion of total energy derived from alcohol. However, men in the Northern region were more likely than those living in London and the South East to have consumed alcohol in the 7 day dietary recording period.

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107 Purchases of alcoholic drinks are known to be under-reported in the Expenditure and Food Survey and therefore this chart understates consumption.