



# Planning Activity

## Theme 2

This document provides an example of a plan for one topic within Theme 2. This resource goes into more detail than is required in the specification but it provides some background to the topic and suggested approaches for planning content.

The approach to planning taken in this document was to:

- Identify the specification content and possible links to other topics in the specification
- Identify the **knowledge**, **application**, **analysis** and **evaluation** relevant to that content
- Identify resources to support delivery – these might include:
  - Support resources including sample assessment materials and Getting Started guide
  - Published resources including textbooks
  - Websites and news stories
- Develop activities and resources – these might include:
  - Practice questions from past papers
  - Worksheets
  - Past and new case studies
  - Practice questions for explain, calculate, assess and evaluate (where appropriate)



# Income elasticity of demand

Specification content	<p>2.2.4 Income elasticity of demand</p> <p>a) The significance of income elasticity of demand to firms</p> <p>b) Calculation of income elasticity of demand</p> <p>c) Interpretation of numerical values of income elasticity of demand</p> <p>d) The factors influencing elasticity of demand</p>
Possible specification links	1.3.5c) Segmentation – different customer segments react differently to changes in income
	2.4.2c) Characteristics of developed (mature), emerging and developing economies – different perceptions of inferior, necessity and luxury goods and how these perceptions change
	2.5.1d) The effect on firms of changes in the business cycle will depend to some extent at least on the income elasticity of demand for the products of each business.
	3.1.1b and c) The effect on firms of economic growth will depend to some extent at least on the income elasticity of demand for the products of each firm.
	3.2.2a) Levels and growth of disposable income will influence whether a product is a luxury, necessity or inferior good in a particular country. A product may be a normal good in one country and an inferior good in another (richer) country
3.3.2c) Need to be aware of whether a product is regarded as luxury, necessity or inferior when deciding marketing strategies in different countries	

Students may use the concept of income elasticity of demand in any question which asks the student to assess the impact of the business cycle on firms. It is possible to demonstrate that not all firms are the same because the products they sell will have different income elasticities of demand and that the impact will, therefore, depend on the income elasticity of demand for the products they sell.

Marketing strategies may differ between segments/countries depending on whether the product in question is considered a luxury, necessity or inferior in that segment/country.

This means that it is definitely a concept to return to throughout the course.



## Knowledge, application, analysis and evaluation

### Knowledge

Students need to know key terms – normal goods, necessities and luxuries, inferior goods, income elastic, income inelastic, negative income elasticity.

Students will also need to know the formula.

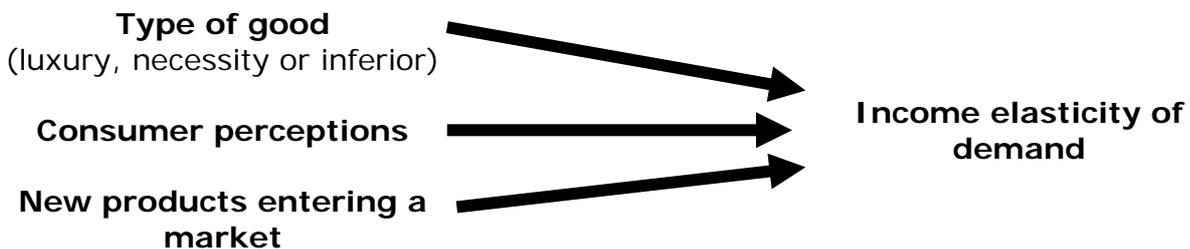
### Application

Students need to be able to provide and recognise examples of types of goods and services which might be income elastic, income inelastic, or have negative income elasticity.

Students will need to calculate income elasticity of demand and be able to re-arrange the formula.

### Analysis

#### Factors influencing income elasticity of demand





### Significance of income elasticity of demand to a business

Sales forecasting	If a business sells goods which have a high income elasticity of demand, demand may be cyclical (it will rise in booms and fall in recessions) and this will make forecasting more difficult. A business selling goods with a low income elasticity of demand will find sales forecasting easier as demand will be stable.
Economic growth	In a period of economic growth, a business producing income elastic products will need to plan for increased sales which could impact on operations, recruitment and capital investment. A business selling inferior goods will face counter-cyclical demand (it will fall in booms and rise in recessions) and so may find that sales increase in a recession.
Pricing	If incomes are falling and a business is selling income elastic goods, it may have to cut prices to maintain sales levels.
Diversification	A business can spread risks by producing goods with different income elasticities of demand so that falling sales in one product range can be offset by rising sales in another.

### Evaluation

Magnitude	The impact of a change in incomes will be very different if the income elasticity is 0.1 or 4.
Short-run/long run	Income elasticities of demand change over time. As incomes rise over the long term, superior products can become inferior as new technology and new products replace what were once highly regarded goods. For example, satellite TV may come to be seen as inferior to integrated digital televisions.
Consumer perceptions will change over time and will change with age.	<p>The perception of a product as 'inferior' implies that there is a superior substitute but the notions of inferior and superior will differ between consumers and over time. Similarly, what may be a necessity to one consumer might be a luxury to another.</p> <p>A holiday in Blackpool or Scarborough was once a luxury but with the development of cheap flights in the 1970s such holidays came to be seen by many as 'inferior' to a holiday in Spain. In time, holidays in Spain came to be seen as 'inferior' to holidays in the Caribbean. During the Great Recession since 2008, the term 'staycation' has been used to describe the taking of a holiday in the UK as an inferior substitute to a holiday overseas.</p>
Other factors	Changes in income is just one of many factors which might have an impact on the quantity demanded so the importance of any change in income will have to be set against all of the other factors (price, price of substitutes, advertising, changes in tastes and fashions, etc)



## Activities to use and/or adapt

Past multiple choice questions could be used as starter activities/to test knowledge. Questions 5-8 are from GCE Economics past papers (Answers: 1. C; 2. B; 3. D; 4. D; 5. C; 6. D; 7. D; 8. A)	Knowledge
Worksheet 1	Knowledge
Worksheet 2	Knowledge
Worksheet 3	Knowledge and Application
Topical Case 1 from Ian Marcousé: Marmite Elasticity 2011	Knowledge and Application
Topical Case 1 from Ian Marcousé: Changing incomes, changing fortunes	Knowledge, Application and Analysis
Case study 1: tourism and recession	Knowledge, Application, Analysis and Evaluation
Case study 1: business growth and the recession	Knowledge, Application, Analysis and Evaluation



## Multiple choice questions

These questions could be copied onto a PPT slide and used as a starter.

For practice, students should write the correct answer **and** an explanation to support this answer with context and a chain of reasoning (knowledge, application and analysis).

1. During a recession which of the following businesses is **least likely** to suffer a fall in sales?

- A a travel agent
- B a car dealership
- C a bus company
- D a fashionable clothes shop

2. If an increase in a consumer's income causes the consumer to decrease the quantity demanded of baked beans, then baked beans might best be described as:

- A a complementary good
- B an inferior good
- C a normal good
- D a substitute good

3. During the boom period of the economic cycle which of the following businesses is **least likely** to see a significant increase in sales?

- A Mercedes car dealership
- B fashionable clothes shop
- C travel agent
- D discount food retailer

4. In March 2011, the retailer Poundland reported a record annual turnover of £642m which was a 26% rise on 2010 – at a time when consumers' real incomes were falling. This suggests that Poundland sells:

- A luxury goods
- B normal goods
- C complementary goods
- D inferior goods



5. Estimates of income elasticity of demand for selected soft drinks for the period 2001 to 2006:

Soft drink	Income elasticity of demand
Fizzy drinks	- 0.24
Fruit drinks	+ 0.16
Bottled water	+ 1.05

(Source: Nielsen/Britvic 2007)

From the data in the table it may be deduced that:

- A** An increase in consumer income will lead to a more than proportionate increase in demand for fruit drinks.
- B** A decrease in consumer income will cause a fall in the demand for all of the drinks.
- C** An increase in consumer income will lead to a decrease in demand for fizzy drinks.
- D** A decrease in consumer income will lead to a less than proportionate decrease in demand for bottled water.

6. Jackie's income decreases from £2 000 to £1 800 per month. As a result, the number of times Jackie goes to the cinema decreases from twice to once per month. Her income elasticity of demand for cinema visits is:

- A** -0.5
- B** 0.5
- C** -5.0
- D** 5.0



7. The table below shows UK average weekly income and selected transport statistics 2002 to 2008.

Year	2002	2008
Average gross weekly household income (in real terms at 2002 prices)	£552	£604
<i>Billion passenger kilometres travelled by:</i>		
Cars and taxis	393	402
Buses and coaches	5.2	5.2
Bicycles	4.4	4.7
Rail	48	61

(Source: © Crown Copyright, adapted from Figures 8.3 and 17.3 in the Annual Abstract of Statistics and Social Trends 2010)

The data in the table suggest that over the period:

- A The income elasticity of demand for bus and coach travel is equal to 1.0.
- B The income elasticity of demand for travel by bicycle is negative.
- C The price elasticity of demand for rail travel is positive.
- D The income elasticity of demand for travel by cars and taxis is positive.

8. Estimates of income elasticity of demand for selected food items in Cyprus and the Maldives.

Product	Cyprus	Maldives
Cereals e.g. rice	-0.12	0.50
Fish	0.37	0.64
Oils and fats	0.00	0.52

(Source: <http://www.ers.usda.gov/Data/InternationalFoodDemand>)

It may be deduced from the data in the table that:

- A the demand for fish is income inelastic in both countries
- B the demand for oils and fats is perfectly income elastic in Cyprus
- C cereals are a normal good in Cyprus but an inferior good in the Maldives
- D the demand for oils and fats is more responsive than the demand for fish to a change in income in the Maldives



## Worksheet 1

When consumer incomes change it has an impact on businesses. As a society gets richer, consumption patterns change and businesses change what they supply.

Consumer incomes can change during the business cycle – during booms and recessions. Some businesses do well in booms and others do well in recessions. There are also businesses which are not greatly affected by booms and recessions.

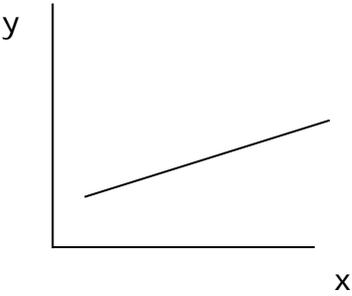
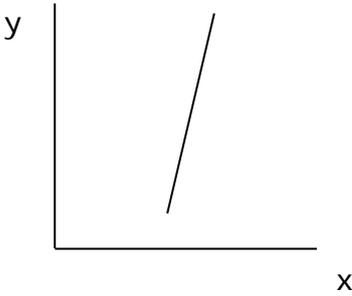
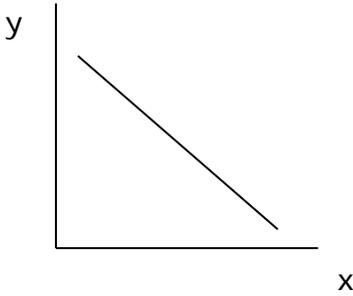
Businesses which sell *normal goods* will generally see sales increase when consumer incomes rise and sales fall when consumer incomes fall. There is a positive correlation between incomes and sales. The extent of the change may depend on whether the goods are *necessities* or *luxuries*.

Businesses selling necessities may find that sales do not change very much when consumer incomes fall. Sales are very inelastic in relation to changes in consumer incomes – they are *income inelastic*. An example might be toilet paper – as incomes rise our spending on toilet paper does not change that much.

Businesses selling luxuries may find that sales are very sensitive to changes in consumer incomes. Sales are very elastic in relation to changes in consumer incomes – they are *income elastic*. These *superior goods* will make up a higher proportion of a consumer's total spending as income rises. An example might be holidays – as incomes rise we spend more on holidays.

There are some businesses selling goods which see sales rise when consumer incomes fall, and sales fall as consumers get better off. These goods are called *inferior goods* – as consumers get better off they switch to superior substitutes. There is a negative correlation between incomes and sales. These goods are said to have a *negative income elasticity*. As incomes increase, inferior goods will make up a smaller proportion of a consumer's total spending as that consumer switches to better quality substitutes.

When considering the correlation between a variable on the x axis and a variable on the y axis, three possible diagrams are shown below.

<p style="text-align: center;">A</p> 	<p style="text-align: center;">B</p> 	<p style="text-align: center;">C</p> 
A positive correlation	A positive correlation	A negative correlation

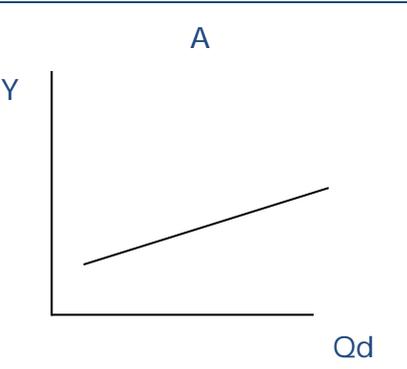
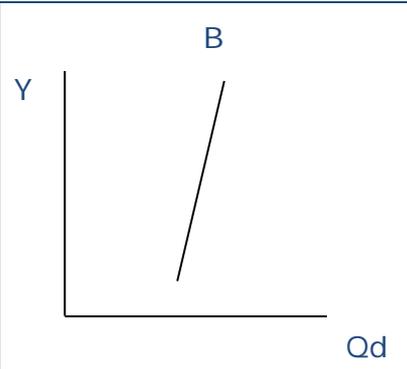
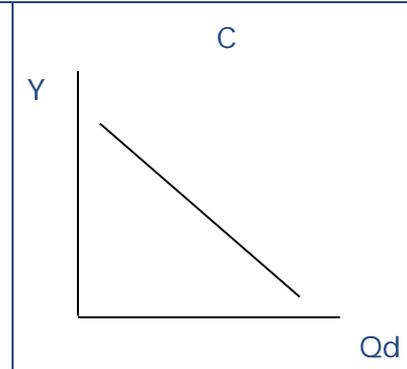


If the x axis was measuring sales of ice cream, in which diagram might the y axis be measuring:

- hours of rainfall?
- hours of sunshine?

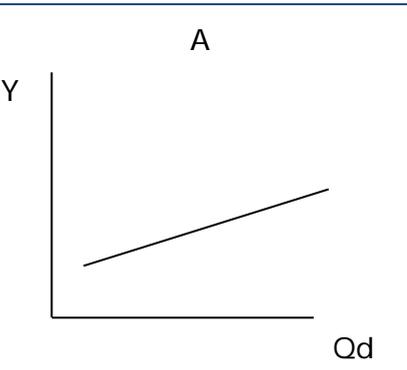
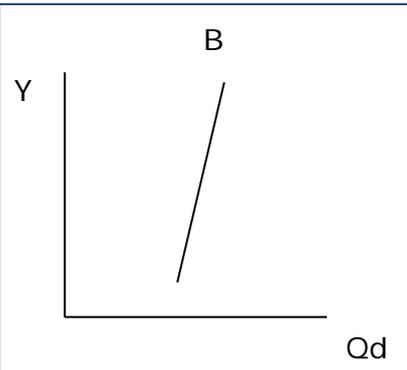
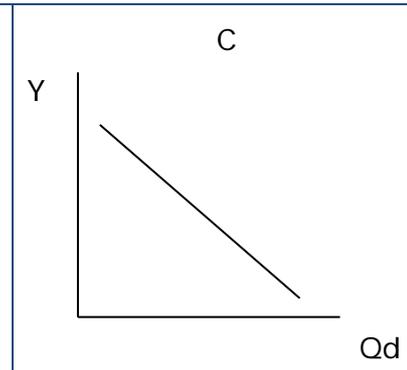
You have already seen diagrams where the x axis measures sales (quantity demanded or Qd) and the y axis measures price.

Now consider if the y axis measures consumer incomes (Y) instead of price.

A	B	C
		
A positive correlation	A positive correlation	A negative correlation

If the x axis was measuring sales and the y axis measuring income, which diagram might represent sales of:

- toothpaste?
- expensive foreign holidays?
- supermarket own-brand goods?

A	B	C
		
A positive correlation	A positive correlation	A negative correlation
Income elastic	Income inelastic	Negative income elasticity



Using the examples above, toothpaste, expensive foreign holidays, and supermarket own-brand goods, describe what is meant by:

- income elastic
- income inelastic
- negative income elasticity



## Worksheet 2

The diagrams below show change in income. This is the rise from Oy to Oy1.

A	B	C
A positive correlation	A positive correlation	A negative correlation
Income elastic	Income inelastic	Negative income elasticity

In each case, as income rises from Oy to Oy1, the quantity demanded moves from Oq to Oq1. The impact (the income elasticity of demand) is very different in each case and we can represent this in a number.

- Let us assume that the rise in income from Oy to Oy1 represents a 20% increase.
- The change in quantity demanded is different in each diagram.
- In diagram A we will assume that quantity demanded has gone up by 80%.
- In diagram B we will assume that quantity demanded has gone up by 10%.
- In diagram C we will assume that quantity demanded has gone down by 40%.

A figure for the income elasticity of demand can be obtained using the formula:

$$\text{Income elasticity of demand (YED)} = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in income}}$$

$\text{YED} = \frac{\% \Delta \text{ in } Q_d}{\% \Delta \text{ in } Y}$	$\frac{+80}{+20} = +4$	$\frac{+10}{+20} = +0.5$	$\frac{-40}{+20} = -2$
	Income elastic	Income inelastic	Negative income elasticity

Why will negative income elasticity always have a minus sign?

Why will the income elasticity for income inelastic good always be less than 1?



### Worksheet 3

Sort the following into one of the categories below: bus travel; fresh vegetables; foreign holidays; luxury chocolates; matches; private education; potatoes; petrol; champagne; hair shampoo; value own brand bread; designer clothes.

Luxury	Necessity	Inferior
Income elastic	Income inelastic	Negative income elasticity

What type of product has an income elasticity of demand of:

- 2
- -1.5
- 0.35

### Re-arranging the formula

$\text{YED} = \frac{\% \Delta \text{ in } Q_d}{\% \Delta \text{ in } Y}$	<p>....is the same as...</p>	$\% \Delta \text{ in } Q_d = \text{YED} \times \% \Delta \text{ in } Y$
		<p>.....or....</p>
		$\% \Delta \text{ in } Y = \frac{\% \Delta \text{ in } Q_d}{\text{YED}}$

Incomes have fallen by 5%. Calculate the impact on sales of:

- Whisky (YED = 4.1)
- Own-brand baked beans (YED = -0.4)
- Apples (YED = 0.2)

Incomes have risen by 5%. Calculate the impact on sales of:

- Whisky (YED = 4.1)
- Own-brand baked beans (YED = -0.4)
- Apples (YED = 0.2)



## Topical Case 1 by Ian Marcousé

### Marmite Elasticity 2011

2011 was a difficult year for many brands and many businesses. A surprise, though, was Marmite's poor performance. In the year to end-October 2011 its sales fell 0.2% by value. As the whole market for 'Yeast spread' rose 4.1% to £52 million, Marmite suffered a fall in market share. Marmite has always been a famously price inelastic brand, yet not in 2011. Its price was cut by 4.5% in 2011, pushing sales volumes up by 4.4%. Marmite sales in 2011 were worth £38.7m.

2011 proved the year of own label in the market for jams and spreads. Unit sales rose 8.9% and the sector now sells 56.5% of all jams and spreads (by volume). Sales of branded jams and spreads fell by 0.5%. Their sales seem to have been affected by the fall in real incomes that occurred in 2011. December 2011's annual RPI inflation measure was at 4.8% while median salaries rose by 1.4% over the previous 12 months.

Just one 'spread' had a terrific 2011 – Nutella. Its sales rose by 21.7% from Nutella's 2010 sales figure of £23.25 million. Pleasing though this was for Nutella's Italian owner, the Managing Director of Ferrero was quick to point out that 'we sell ten times more Nutella in France, per capita, than in Britain'. He also announced plans to open a Nutella factory in Britain, 'to support the predicted rise in volume sales'.

Some retailers also had a great year with spreads in 2011. Sales at Aldi rose 37% while at Lidl they went up by 10.3%. By contrast Sainsbury's sales rose 3.9% while those of Marks & Spencer fell by 29.8%.

Source: all the above data is from the Jan 28<sup>th</sup> 2012 issue of 'The Grocer' magazine



**Questions (30 marks; 35 minutes)**

- 1a) What is meant by 'real income'? (2)
- 1b) Calculate the change in the average household's real income in 2011. (3)
- 1c) Use this information to calculate the apparent 2011 income elasticity of:
  - 1ci) Own label jams and spreads. Comment on your finding. (7)
  - 1cii) Branded jams and spreads. Comment on your finding. (7)
  
- 2a) Calculate Marmite's apparent price elasticity in 2011. (4)
- 2b) Why may Marmite's price elasticity have changed since the time it was regarded as 'famously price inelastic'? (4)
- 2c) Calculate Marmite's share of the market for 'Yeast spread'. (3)



## Topical Case 2 by Ian Marcousé

### Changing Incomes – Changing Fortunes

It is easy to assume that when the economy slows down and people spend less, either because they are worried about the future or their incomes have reduced, that all businesses will suffer from falling demand. This is not always the case.

#### Domino's Pizza

Domino's the UK based home delivery pizza service has reported that its yearly profit is up by 33%, boosted by an 14% rise in sales. All of this, despite the slowdown in the economy and falling restaurant sales. Chief Executive Chris Moore said "Instead of eating out three or four times a week, we are seeing real signs that (people) have cut that to once or twice. They are filling up with pizza instead". So successful has Domino's been that its share price has increased 14-fold since the company's flotation in 1999. It has an ambitious programme of expansion. It plans to increase the number of outlets from the current 501 to 1000 by the year 2017.

#### Halfords

Halfords the car accessory and bicycle retailer is also doing well in the current slowdown. Halfords initially expanded on the growing demand for car accessories and spare parts as car ownership expanded and more people maintained their own vehicles. Then incomes began to increase and more people bought newer and more reliable cars, the cars themselves improved in quality and the technology became more complex. So Halfords took full advantage of the growing demand for bikes, particularly the lower mass-market end of the spectrum. Now sales are expanding as more UK customers are hanging on to their cars for longer and saving money by once more doing their own repairs and servicing. Halfords is also expanding, this time into the Eastern European markets where again, many of the cars are older and less reliable.

#### Wal-Mart

Wal-Mart the world's biggest retailer has beaten the economic slowdown in the USA and has announced sales of \$106 billion dollars in the 3 months up to January 31<sup>st</sup> 2008. This is a record for the company and an 8.3% increase. To put this into perspective this is more revenue than Tesco takes in a year and is equivalent to \$48 million an hour! This contrasts with their poor year 2006 when they tried to move away from their low price value roots and into more upmarket clothing and homeware areas. Sales fell and they had to re-think their ideas. Since then it has launched big price cutting campaigns to win back its core low-income customers with considerable success.

#### Activities/Discussion

Which other types of business may prosper in an economic slowdown?

Which types of business do you think will suffer the most during an economic slowdown?

What might happen to Domino's Pizza when the economy recovers and grows again?

Why do you think Wal-Mart did not succeed in their 2006 venture?

What important lessons for a business can you draw from these case studies?



## Case study 1: tourism and recession

### It's an ill wind ... British tourism finds recession is so bracing!

The falling value of the pound and fears about the recession mean record numbers of Britons will choose to holiday at home this summer. The Association of British Travel Agents said that bookings in January 2009 are up year on year. The humble self-catering holiday is coming back, with Hoseasons, Butlins and the Youth Hostels Association (YHA) all reporting increased business. "Bookings for 2009 are up 20 per cent on last year, with the price of overseas holidays set to soar next year, but breaks in Britain are likely to go up in price by only 3%," said Peter Joyner of Hoseasons.

Research by VisitBritain, the tourism authority, has revealed that 74% of people are trying to reduce their holiday spending. Tourist boards across the country are trying to capture the extra trade. For example, the Northwest Regional Development Agency announced a £20m package that will be used to market its area.

The higher end of the British market is also flourishing. Blue Chip Vacations, which owns 500 luxury properties in Britain, said its bookings were up by 72% this year.

(Source: adapted from [www.theindependent.co.uk](http://www.theindependent.co.uk), Rachel Shields, 1 February 2009)

### Questions

1. Explain how the falling value of the pound might affect the spending power of British consumers holidaying abroad.
2. Assess the extent to which the economic downturn might affect providers of budget holidays such as Butlins.



## Case study 2: Business growth in a recession

### Source 1: Grocery market share

Market share	2007	2013	2014
Tesco	31.3%	29.8%	28.7%
Asda	16.7%	17.2%	17.2%
Sainsbury's	16.3%	16.8%	16.4%
Morrisons	11.2%	11.5%	11.1%
The Co-operative	4.4%	6.3%	6.2%
Waitrose	3.9%	4.8%	5.1%
Aldi	2.6%	3.9%	4.9%
Lidl	2.2%	3.0%	3.5%

Source: Retail Times November 2014

### Source 2: Aldi Sales 2011-2013

Year ending	31 Dec 2011	31 Dec 2012	31 Dec 2013
Sales	£2.76bn	£3.9bn	£5bn

Source FT 20/07/2014

### Source 3: Aldi and the recession

Openings of Aldi stores in areas such as Maidstone in Kent and Stratford-upon-Avon are helping to attract new customers but Aldi estimates that sales from stores open at least a year account for more than 25 percentage points of the overall sales increase. Much of this growth has come from the cash-strapped middle classes grappling with squeezed household budgets.

Aldi has been working hard to attract more affluent shoppers, expanding its range and sourcing more products from British suppliers.

The recession has obviously played into Aldi hands. Research from the Institute of Grocery Distribution, the food industry think tank, found that almost a third of shoppers said they would be using discount supermarkets more this year compared with almost a quarter a year earlier.

People from higher socio-economic groups with children were most likely to use discounters more, the IGD said.

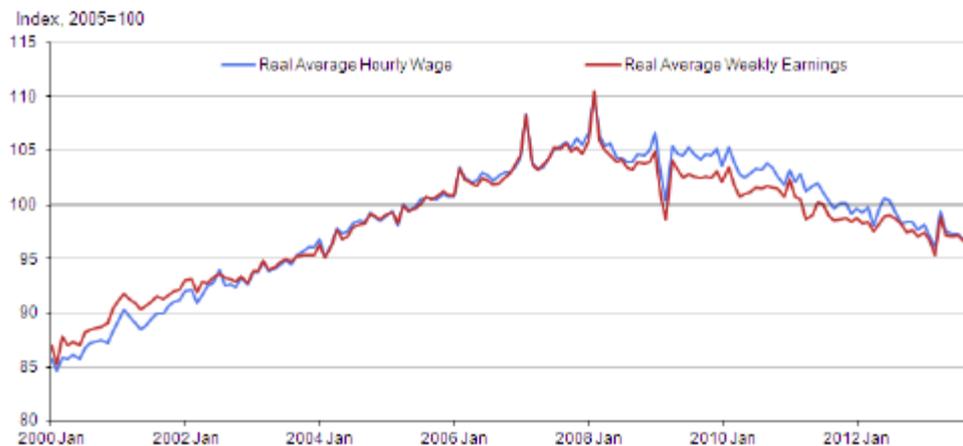


But the biggest question mark over Aldi's continued success is whether it is sustainable when the economy begins to recover and its new middle-class customers' incomes are less squeezed.

Source: Adapted from FT 01/10/2012

#### Source 4: Average earnings 2005-2012

Figure 5: Real Average Weekly Earnings and Real Average Hourly Wage, index 2005=100.



Source: ONS – An Examination of Falling Real Wages

#### Questions

- Using Source 1, calculate the percentage change in the market share of the following between 2007 and 2014:
  - Tesco
  - Waitrose
  - Aldi
- Using Source 2, calculate the percentage growth in Aldi's sales 2011-2013.
- Explain why Aldi's income elasticity of demand might be negative.
- Assess the importance of the recession in helping Aldi to grow.