



Skoolumy

CAMBRIDGE A LEVEL ECONOMICS TOPICAL ESSAY
QUESTIONS

ELASTICITY OF DEMAND

PAST QUESTIONS

1. *(a) Increasing raw material costs cause the price of a good to rise. Explain the effect of this price rise for the good on the markets for its substitute and complementary goods. [8]*

(b) Discuss the usefulness to businesses of a knowledge of price elasticity of demand and income elasticity of demand. [12]

2. *Discuss the extent to which knowledge of the income elasticity of demand for its product is likely to be more useful to a business than knowledge of the cross elasticity of demand for its product. [12]*

3. United States reduces dependence on foreign oil

In 2001, a United States (US) energy report warned that by 2020 the US could be importing two-thirds of its oil. If US oil consumption continued rising and production continued falling, imports would increase from 10 million barrels per day to about 17.5 million per day.

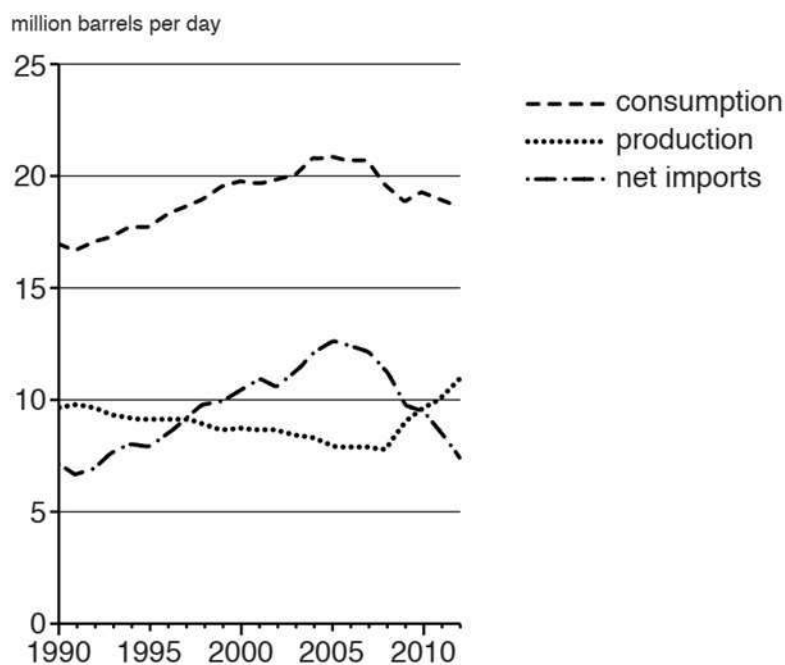
The forecasts were both wrong. US oil production has soared while consumption has fallen. It now looks more likely that the US will have only limited, if any, net oil imports by the end of the decade. China has now replaced the US as the world's largest oil importing economy.

A new technique, known as hydraulic fracturing (fracking), has allowed access to new sources of oil in the US. As a result, US crude oil production has risen by 50% since 2008. In addition, the US now produces significant quantities of biofuel from corn ethanol. This is a substitute for gasoline (petrol) obtained from crude oil and its production has increased by more than 300% in recent years.

In addition to new US oil supplies, what has been happening to demand is just as important. Falling enthusiasm for cars among younger Americans has reduced the country's need for oil.

Fewer young people are learning to drive and there have been declines in vehicle ownership per household and the total distance driven. At the same time, US cars are now more fuel-efficient.

Fig. 1: US oil consumption, production and net imports (1990–2012)



Source: Adapted from the US Energy Information Administration 'Energy Review'

Table 1: Annual average price of gasoline (petrol) in US

Year	US\$ per gallon including taxes
2007	2.85
2008	3.32
2009	2.40
2010	2.84
2011	3.58
2012	3.70
2013 (March)	3.79

Source: US Energy Information Administration

Explain the value that you would expect to find if you measured the relationship between gasoline (petrol) and biofuel using the concept of cross elasticity of demand. [4]

4. The Fiji economy: a positive outlook

Fiji is a small island country in the Pacific with a population of 860 000. In 2014 its economy was reported to be continuing to grow steadily. It remained on course for a fifth consecutive year of expansion, boosted by high tourist arrivals and visible export earnings, particularly from sugar. The factors that were expected to restrict growth in 2015 included ongoing dry weather conditions causing lower output of agricultural goods, with the exception of sugar.

Table 1: Selected economic indicators for Fiji

	2014 estimate	2015 forecast
Economic growth rate %	3.3	3.0
Inflation rate %	3.0	3.5
Current account balance as % share of GDP	−6.0	−7.0

Source: Asian Development Bank, 2014

Consumption remained strong in the first five months of 2014, and imports of consumer goods, mainly vehicles, rose by 15.6%. Personal remittances increased, boosting consumption expenditure.

The tourism sector – Fiji’s main source of foreign exchange – continued to perform strongly. Visitor arrivals increased by 4.0% year-on-year, with 4.6% more visitors from Australia and 11.6% more from New Zealand, but there was a significant fall in visitor arrivals from Japan.

Sugar production increased, aided by government investments in new technology that improved efficiency of production and reduced price.

Despite higher growth, inflationary pressures were eased by declining international commodity prices. However, annual average inflation in 2014 was not expected to fall below 3.0%, as economic activity was expected to revive. In addition, continuing dry weather was affecting the food supply.

Despite the positive growth outlook, increased investment is needed to improve productivity and address supply-side capacity constraints.

Source: Asian Development Outlook 2014 Update

Explain what the changes in sugar’s contribution to visible export earnings and in the price of sugar might suggest about the price elasticity of demand for sugar.
[3]

5. (a) Explain the factors that can affect the price elasticity of demand for a product. [8]

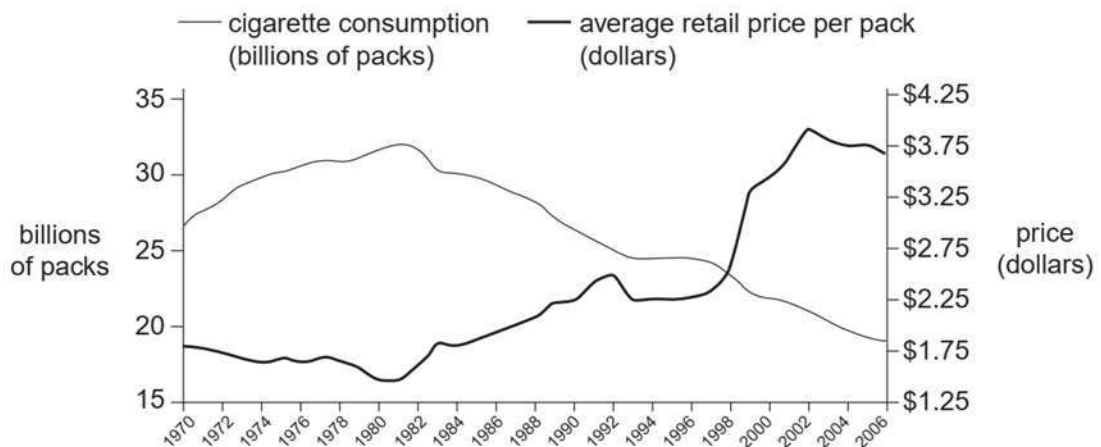
(b) Discuss the extent to which knowledge of a product's cross-elasticity of demand is likely to be important to a firm supplying that product. [12]

6. Economic Aspects of Cigarette Smoking

Smoking cigarettes is a controversial matter that illustrates a number of economic issues. As with most products, the key influence on the level of consumption is the product's price.

United States

Fig. 1 US cigarette consumption and cigarette prices 1970–2006



Malaysia

A study of cigarette smoking in Malaysia estimated the short-run and long-run price elasticity of demand (PED) and the income elasticity of demand (YED) for cigarettes between 1990 and 2004. The results are shown in Table 1.

Table 1: Demand elasticities for cigarettes in Malaysia

Short-run PED	Long-run PED	YED
-0.08	-0.57	+1.46

Europe

In Europe, taxation of cigarettes is particularly heavy. In 2006 it was 76.4% of the final selling price in Germany, 77.1% in the UK and 80.4% in France. European countries are increasingly banning smoking in enclosed public areas and workplaces. Some anti-smoking campaigners are calling for the smoking of cigarettes anywhere to be made illegal.

(a) What do the three elasticity values in Table 1 tell us about the elasticity of demand for cigarettes? [3]

(b) What might explain these different elasticity values? [4]

7. Explain, using elasticity of demand, the possible reasons why in some countries there has been an increased use of private transport instead of public transport. [8]

8. (a) Explain, with examples, the significance of the value of a good's cross-elasticity of demand in relation to its substitutes and complements. [8]

(b) Discuss whether the demand for mobile phones (cell phones) is likely to be price-elastic or price-inelastic. [12]

9. (a) With the help of a formula, explain the meaning of income elasticity of demand and consider the extent to which a rise in income will increase the consumption of all goods and services. [8]

(b) Assess whether an estimate of the price elasticity of demand for a product is likely to be more useful to a firm than an estimate of its price elasticity of supply. [12]

10. (a) With the help of a formula, explain what is meant by the income elasticity of demand for a product and consider the extent to which demand for the product will always rise at the same rate as the income of its consumers. [8]

(b) Assess the extent to which price elasticity of supply or cross elasticity of demand is more useful to businesses. [12]

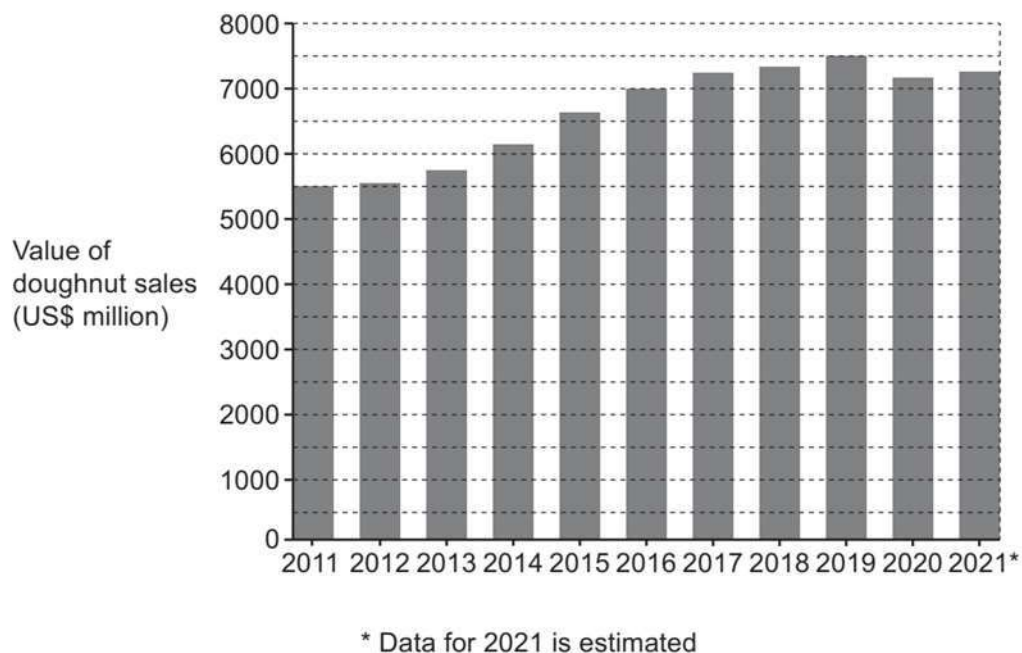
11. Assess whether cross elasticity of demand is likely to be more important in determining the demand for electric cars than income elasticity of demand. [12]

12. Assess whether knowledge of income elasticity of demand or price elasticity of demand for its product is more useful to a business aiming to increase the total expenditure on its product during a period of economic growth. [12]

13. With the help of a formula, explain the meaning of cross elasticity of demand and consider which determinants are most important in establishing the size and sign of its coefficient. [8]

14. Are doughnuts demerit goods?

Consumers love to eat doughnuts. In 2019, 10 billion of these deep-fried sugar-coated products were consumed in the United States (US). Fig. 1.1 shows that the US market increased steadily from 2011 to 2019. Doughnuts are widely available throughout the US. There are specialist shops selling their branded products almost everywhere; local coffee shops invariably sell 'hole in one' doughnuts as a popular breakfast snack to tempt consumers on their way to work. The growing number of shops selling doughnuts has been an important reason behind overall market growth.



Source: ibisworld.com, March 2021

Fig. 1.1 Doughnut market size in the US, 2011 to 2021

The COVID-19 pandemic has had a varying impact on the US doughnut market. Despite having less income, many consumers have continued to buy small luxuries such as doughnuts which remain affordable and can provide some short-term relief from the stresses of the pandemic. Overall, sales of doughnuts fell in 2020 and are forecast to remain below their 2019 peak into 2021. Reasons for this fall in demand are that consumers are making fewer shopping trips and in cities, more people are working from home and therefore not buying their daily coffee and doughnut snack.

In the United Kingdom (UK), more so than in the US, there are growing concerns about the increase in sugar consumption amongst children. This increase comes from soft drinks, chocolate biscuits and sweets (candy) as well as from jam-filled doughnuts, all of which are widely available in supermarkets and local convenience stores. In 2021, it was estimated that a third of teenagers and two thirds of adults in the UK were overweight. This has increased the pressure on the UK government to end online advertising of a range of products including doughnuts. It has been estimated that viewing one minute of advertising for products like doughnuts leads to a child consuming an additional 14.2 calories. Moreover, a ban on advertising sugary foods would result in children consuming the equivalent of 62 million fewer doughnuts a year in the UK.

Comment on whether the demand for doughnuts in the US is income elastic or income inelastic. [2]

15. Assess whether price elasticity of demand (PED) or income elasticity of demand (YED) is likely to be of greater importance to a firm producing cars. [12]

16. (a) With the help of a formula, explain what is meant by the term price elasticity of demand for a product and consider the extent to which it allows an entrepreneur to determine the effect of price changes on the total expenditure on their product. [8]

(b) Assess whether the concept of price elasticity of supply or cross elasticity of demand will be more useful to a business wanting to increase its total sales in a growing economy. [12]

17. Assess whether knowledge and understanding of price elasticity of demand (PED) or cross elasticity of demand (XED) is likely to be more useful to a producer of smartphones. [12]

MARK SCHEME

Table A: AO1 Knowledge and understanding and AO2 Analysis

Level	Description	Marks
3	- A detailed knowledge and understanding of relevant economic concepts is included, using relevant explanations. Explanations are supported by examples, where appropriate. - The response clearly addresses the requirements of the question and explains economic issues, and fully develops these explanations. - Analysis is developed and detailed and makes accurate and relevant use of economic concepts and theories. Where necessary, there is accurate and relevant use of analytical tools such as diagrams and formulae, and these are fully explained. - Responses are well-organised, well-focused and presented in a logical and coherent manner.	6–8
2	- Knowledge and understanding of some relevant economic concepts is included, using explanations and examples that are limited, over-generalised or contain inaccuracies. - The response addresses the general theme of the question and the relevant economic issues, with limited development. - Analysis is generally accurate with some development but little detail. Uses analytical tools such as diagrams and formulae where necessary. Use of these tools is partially accurate or not fully explained. - Responses are generally logical and coherent but are sometimes lacking in focus or organisation.	3–5
1	- A small number of relevant knowledge points are included and the response is limited by significant errors or omissions. - The response has little relevance to the question. - Analysis where provided is largely descriptive. Use of analytical tools such as diagrams and formulae, where necessary, may contain significant errors or be omitted completely. - Responses show limited organisation of economic ideas.	1–2
0	No creditable response.	0

Table B: AO3 Evaluation

Level	Description	Marks
2	- Provides a justified conclusion or judgement that addresses the specific requirements of the question. - Makes developed, reasoned and well-supported evaluative comment(s).	3–4
1	- Provides a vague or general conclusion or judgement in relation to the question. - Makes simple evaluative comment(s) with no development and little supporting evidence.	1–2
0	No creditable response.	0

1. (a) Substitutes and complements may be described or analysed via XED. A price rise reduces the quantity demanded of the good itself. The demand for complementary goods will also decline, reducing their price. The higher price will make substitutes more demanded, causing their price and output to rise. Examples can illustrate this and demand and supply diagrams can show the process.

Understanding of complementary and substitute goods up to 3 marks

Description of the results of a price rise up to 3 marks

Analysis of the market effects up to 2 marks

(b) Price and income elasticity affect the response of quantity demanded to changes in the respective variables. For a firm this will affect its revenue and the markets it serves. It will use PED to help with pricing policy and YED to affect the level and nature of production. However, estimates may be inaccurate, circumstances may change and there may be little use of or trust in the measures.

Understanding of the elasticity concepts up to 4 marks

Explanation of the uses of the concepts up to 6 marks

Discussion of the limitations in use up to 6 marks, subject to maximum of 8 in total for this and the previous line

2. For Analysis

Analysis of the usefulness of income elasticity of demand to a business, with the use of appropriate scenarios. (up to 4 marks)

Analysis of the usefulness of cross elasticity of demand to a business, with the use of appropriate scenarios. (up to 4 marks)

8 marks maximum

For Evaluation

For exercising some judgement on whether knowledge of the income elasticity of demand for its product is likely to be more useful to a business than knowledge of the cross elasticity of demand for its product with regard to changes in the price of the products of other businesses. (up to 4 marks)

Reserve 1 mark for a conclusion

4 marks maximum

Guidance:

Income elasticity of demand can be useful to a business in relation to:

- normal goods (positive YED)
- inferior goods (negative YED)
- economic development of a country
- boom or recession: effect on business planning

Cross elasticity of demand can be useful to a business in relation to:

- substitutes/alternative demand (positive XED)
- complements/joint demand (negative XED)

3. For knowledge and understanding of the cross elasticity of demand: either through a definition of the term or the formula, but making it clear what is being measured. (1 mark)

For recognition that the two goods are substitutes. (1 mark)

For recognition that the coefficient would be positive. (1 mark)

For explanation of why the coefficient is positive. (1 mark)

4. For a clear understanding of the concept of price elasticity of demand [1 mark].

The price elasticity of demand for sugar must be elastic [1 mark] because a fall in price has resulted in an increase in demand by a greater % resulting in a rise in expenditure [1 mark].

5. (a) For knowledge and understanding of the concept of price elasticity of demand as the percentage change in the quantity demanded of a product divided by the percentage change in the price of the product.

(KU total: Up to 2 marks)

For application of factors to the determination of the PED of a product.

The question does refer to factors, i.e. a minimum of two factors need to be explained. Up to 3 marks for one factor that is very well explained. A candidate needs to explain a minimum of two factors to gain all 6 marks.

(APP total: Up to 6 marks)

Guidance

Candidates should refer to the possible factors that can affect the PED for a product:

- the period of time
- the number and availability of substitutes
- the degree of necessity
- the durability of a product
- the proportion of income taken by a product
- the width of definition of a product
- the amount of money spent on a product

(b) For analysis of the importance of XED to a firm.

Analysis of a positive XED. (Up to 4 marks)

Analysis of a negative XED. (Up to 4 marks)

(AN total: Up to 8 marks)

For evaluative comment on the extent to which XED is likely to be important to a firm supplying that product (1 mark for a conclusion)

Candidates need to consider that the extent to which XED is likely to be important to a firm supplying a particular product will depend on a number of factors, such as how close a substitute or a complement is to the firm's product and so how significant a change in a competitor's price will be, and how large the original price change was. XED is likely to be more important when the relationship between two products is a close one. Candidates could evaluate whether XED is likely to be more or less useful than PED or YED. Candidates could also bring zero cross elasticity of demand into the discussion.

(EV total: Up to 4 marks)

Guidance:

Candidates can comment on whether XED is positive, which will be the case if the two products are substitutes, giving rise to competitive demand, or whether it is negative, which will be the case if the two products are complements, giving rise to joint demand. XED is important to the decisions of a firm, enabling it to estimate the effect on the demand for one of its products of a change in the price of a substitute or a complement in the market.

6. (a) Short-run (SR) Price elasticity of demand (PED) very inelastic (1), Long-run (LR) PED inelastic but less than SR (1), Income elasticity of demand (YED) elastic (1), PED negative or YED positive with meanings (1) any 3 points

(b) Habit/inadequate substitutes makes PED inelastic (1), SR no time to change behaviour (1), LR time for some to give up or find alternatives (1), PED negative-normal inverse relationship (1) Maximum of 3 on PED

YED elastic as cigarettes are a high status/luxury good in Malaysia (1) YED positive – normal good (1)

7. The pattern is a move from public to private, such as buses to cars. This is the result of rising incomes, higher expectations, the need for greater mobility, lower priced vehicles etc. Relevant concepts to be considered are demand influences including substitutes with positive cross elasticity of demand and inferior goods with negative income elasticity of demand.

Understanding of elasticity of demand 1 mark

Understanding of the influences on the demand for transport 4 mark

Maximum 4 marks

Explanation of the changes in terms of elasticity 4 marks

8. (a) XED is a measure of the responsiveness of demand for one product to the change in price of another. The formula can be given. For substitutes the value is positive, a rise in the price of a substitute increases demand for the alternative. For complements it is negative, as the price of a complement rises the demand for the associated good will fall. The closer the relationship the greater the value. Examples such as chicken and turkey and cars and petrol may be given.

For knowledge of XED [up to 2 marks]

For explanation of the substitute case [up to 3 marks]

For explanation of the complement case [up to 3 marks]

(b) PED is a measure of the responsiveness of demand to a change in price. Elastic involves a more than proportionate change (>1), inelastic a less than proportionate change (<1). The influences on elasticity include the existence of substitutes, the proportion of income spent on the good and the time period involved. Candidates may apply these influences to mobile phones according to their own experience and circumstances. Sensible reasoning is what is looked for, whatever the final conclusion.

For knowledge of elastic/inelastic demand [up to 4 marks]

For understanding of the influences on elasticity [up to 4 marks]

For discussion of the case of mobile phones [up to 4 marks]

9. (a) AO1 Knowledge and Understanding (max 3 marks)

An accurate definition of income elasticity of demand (1) and accurate formula (1).
Understanding of the difference between normal and inferior goods (1).

AO2 Analysis (max 3 marks)

Normal goods have a positive value (1). Uses a diagram (upwards sloping income demand curve) or the formula to show why an increase in income increases the consumption of such goods (1) – this should be justified with an appropriate example (1).

AO3 Evaluation (max 2 marks)

One mark for a valid explanation that if the good is inferior good then the demand for the good will fall when incomes rise (1) as consumers adjust their spending habits and consumer more normal/luxury goods. The second mark is for a justified conclusion.

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

(b) AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content

Responses may include:

AO1 Knowledge and understanding and AO2 Analysis

- The meaning of the terms PED/PES
- How PED estimates would be useful to business owners –it would indicate the likely changes to revenue in response to changes in the price of a product.
- An explanation of the limitations of PED estimates – does not consider the prices of complements/substitutes; income level of the consumer; trends; ignores the relevance of costs so changes to profits are uncertain.
- An explanation of how PES estimates would be useful to business owners - the potential to invest in spare capacity which can be used if demand rises; increase overtime payments to increase production; whether or not to outsource to other firms who can meet supply.
- An explanation of the limitations of PES estimates – e.g., practical ability to increase the PES; the associated costs in making supply more elastic/responsive.

AO3 Evaluation

- Consideration that fully assesses the relative effectiveness of both PED/PES estimates and their implications for business decision-making and arrives at a reasoned conclusion concerning which concept (or otherwise) is most useful.

Accept all valid responses.

AO1 Knowledge and understanding and AO2 Analysis 8

AO3 Evaluation 4

10. (a) up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2 Analysis

up to 2 marks for AO3 Evaluation.

AO1 Knowledge and Understanding (max 3 marks)

For an accurate formula of YED (1). For clear and accurate knowledge and explanation of what is meant by YED (1) including the difference between elastic and inelastic YED (1).

AO2 Analysis (max 3 marks)

For a clear understanding and explanation that this depends on the coefficient value of YED (1) and analysis of the different outcomes depending on whether the product is normal (positive coefficient) (1) or inferior (negative coefficient) (1).

AO3 Evaluation (max 2 marks)

For a considered evaluation of the possible outcomes (1) leading to a valid conclusion (1).

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

(b) AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content

Responses may include:

AO1 Knowledge and understanding and AO2 Analysis

- An assessment of the usefulness of PES e.g., it estimates how quickly a business will take to respond to changes in demand, levels of stock it can hold etc., but this is only an estimate and may change.
- An assessment of the usefulness of XED e.g., it tells the business whether their product is a substitute (positive XED) or a complement (negative XED) and how close the relationship is and hence its sensitivity to the actions of other businesses, but the speed of change may mean it is quickly out of date.

Level 1 responses will be assertive and lacking in explanations / mainly descriptive and/or or mainly lacking in relevance to the question.

Level 2 responses may contain some inaccuracies and will be one sided. Analysis will be explained at least in part and will be largely relevant to the question.

Level 3 responses will consider alternative policies / concepts etc. and will be balanced. Explanations of points raised will be offered and will be accurate and relevant to the question.

AO3 Evaluation

- For a full evaluation of the usefulness of both measurements compared with each other leading to:
- A valid conclusion

Accept all valid responses.

AO1 Knowledge and understanding and AO2 Analysis 8

AO3 Evaluation 4

11. AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content

Responses may include:

AO1 Knowledge and understanding and AO2 Analysis

- Explanation of what is meant by cross elasticity of demand.
- The significance of the price and availability of substitute models of both petrol and electric cars and their complements e.g., petrol and charging points etc.
- The weaknesses of the concept.
- Explanation of what is meant by income elasticity of demand.
- The significance of income in the decision to purchase an electric car including the relationship of changes in income to changes in demand.
- The weaknesses of the concept.

Level 1 responses will be assertive and lacking in explanations / mainly descriptive and/or or mainly lacking in relevance to the question.

Level 2 responses may contain some inaccuracies and will be one sided. Analysis will be explained at least in part and will be largely relevant to the question.

Level 3 responses will consider alternative policies / concepts etc. and will be balanced. Explanations of points raised will be offered and will be accurate and relevant to the question.

AO3 Evaluation

That clearly assesses the extent to which cross elasticity of demand is likely to be more important than income elasticity of demand in determining the demand for electric cars by comparing the significance and weaknesses of both concepts and reaches a justified conclusion.

A one-sided response cannot gain any marks for evaluation.

Please use a text box to show the mark split e.g., L2 5 L1 2

AO1 Knowledge and Understanding and AO2 Analysis 8

AO3 Evaluation 4

12. AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content

Responses may include:

AO1 Knowledge and understanding and AO2 Analysis

Responses should focus on how the two measures are used rather than displaying merely knowledge and must relate to a period of economic growth which may lead to rising incomes and prices.

- Advantages and disadvantages of using income elasticity of demand include the opportunity to classify products as normal or inferior goods and may influence what type of goods to produce. The measure may be less useful in terms of pricing decisions and may be based on historical data which may be inaccurate.
- Advantages and disadvantages of using price elasticity of demand include the opportunity to measure the impact of price changes but again suffer from the use of historical data which may be inappropriate in a time of economic growth and rising incomes which could affect PED values.

Accept any valid analysis that relates to the use of these measures during a period of economic growth and their impact on the aim of increasing sales revenue.

Level 1 responses will be assertive and lacking in explanations / mainly descriptive and/or or mainly lacking in relevance to the question.

Level 2 responses may contain some inaccuracies and may be one sided. Analysis will be explained at least in part and will be largely relevant to the question.

Level 3 responses will consider alternative policies / concepts etc. and will be balanced. Explanations of points raised will be offered and will be accurate and relevant to the question.

AO3 Evaluation

- Requires an assessment of the use of both measures in comparison with each other in terms of their usefulness to a business aiming to increase sales revenue in a period of economic growth. Leading to
- A justified conclusion as to which is the most useful method. A one-sided response cannot gain any marks for evaluation.

AO1 Knowledge and understanding and AO2 Analysis 8

AO3 Evaluation 4

13. up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2 Analysis

up to 2 marks for AO3 Evaluation.

AO1 Knowledge and understanding (3 marks maximum)

An understanding of what the cross elasticity of demand measures (1), the formula for cross elasticity of demand (1) and the distinction between positive and negative XED. (1)

AO2 Analysis (3 marks maximum)

Explanation of why XED can be positive (substitutes) (1), explanation of why XED can be negative (complements) (1) and explanation of determinants establishing its magnitude (the closer the relationship between two products, whether substitutes or complements, the greater the magnitude of the value of XED). (1)

AO3 Evaluation (max 2 marks)

Offers a valid judgement on the relative importance of the determinants that influence the magnitude of XED and whether it is positive or negative (1) to reach a conclusion. (1)

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

14.

- Identification that it is Income inelastic (1)
- Sales of doughnuts have increased to some consumers despite them having a fall in income (1)

15.

AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content

Responses may include:

AO1 Knowledge and understanding and AO2 Analysis

- An understanding of the meaning and formula of PED.
- An understanding of the meaning and formula of YED.
- An analysis of how each of these concepts can be applied to the specific context of a firm producing cars.

Guidance: A clear comparison of the strengths and weaknesses of these two concepts in the context of car production needed to get into Level 3.

(Up to 8 marks)

AO3 Evaluation

- PED should be easier for a firm to calculate than YED.
- PED will indicate whether price should be increased or decreased.
- However, a firm will need to take into account the availability of substitutes, the amount spent on the product and the time period under consideration.

- YED will be helpful in giving a firm an indication of the extent to which a change in income may affect spending on cars.
- However, a firm will need to take into account whether a car is seen as a normal or an inferior good, the proportion of income that is spent on the car and whether an economy is experiencing an upturn or a downturn.
- In conclusion, PED is likely to be of greater importance than YED, but YED will still be of some use.

Accept all valid responses.

(Up to 4 marks)

AO1 Knowledge and understanding and AO2 Analysis 8

AO3 Evaluation 4

16. (a) AO1 Knowledge and Understanding (max 3 marks)

For a clear understanding of the meaning of price elasticity of demand (1) plus an accurate formula (1) plus a clear understanding of what is meant by price elastic and price inelastic that refers to relative proportionate or percentage changes rather than large or small changes (1)

AO2 Analysis (max 3 marks)

Up to 2 marks for clear analysis of how total expenditure on a product is affected by price changes if the demand is price elastic.

Up to 2 marks for clear analysis of how total expenditure on a product is affected by price changes if the demand is price inelastic.

Note: as the question refers to price changes it is expected that answers should consider both price increases and price decreases. If either part of the analysis only considers a price rise **or** a fall, then a **maximum** of 1 mark for that part of the

analysis. If both parts of the analysis consider a price rise or fall then a maximum mark of **2** i.e., **1 + 1**.

AO3 Evaluation (max 2 marks)

Up to 2 marks for considering the extent to which the concept can help the entrepreneur and making a judgement.

- Consideration of the accuracy of the measure and the ease of calculation for an entrepreneur
- Consideration of other factors which may affect total expenditure on a product when price changes.
- Reserve 1 mark for a conclusion that focuses on the extent to which it allows the entrepreneur to determine the effect of price changes.

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

(b) AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content Responses may include:

AO1 Knowledge and understanding and AO2 Analysis

Analysis of the concept of price elasticity of supply may explain its use in increasing a business' total sales by examining the following.

- Usefulness depends on the type of goods and whether decisions need to be made in the short run or long run.
- It may help businesses with regards to stock holding and decisions about which products to focus on

- It may help businesses make decisions about productive capacity and whether e.g., to invest in new technology BUT
- It depends on the accuracy of the data used to produce the value.
- This may change over time and the value may have little value in a growing economy.
- Some products, such as agricultural/perishable products, will naturally have a more price inelastic supply and knowledge of the value may have little use. Analysis of the concept of cross elasticity of demand may explain its use in increasing a business's total revenue by examining the following.
- It will mean the business understands the relationship between its product and others i.e., whether they are complements or substitutes.
- It also measures the closeness of the relationship and informs decisions about how quickly and the extent to which it should react for example if a competitor changes its prices.
- It should assist a business to develop a pricing strategy that maximises opportunities to generate more sales **BUT**
- The usefulness depends on the accuracy of the data and in a growing economy, it may not be possible to keep the value up to date. It is therefore often dependent on estimates that may be inaccurate.
- Businesses may not be able to act on the data by changing prices if their cost structure cannot be easily changed.
- Other variables other than cross elasticity of demand may be more important for example non price determinants such as brand loyalty.

Better answers will refer directly/implicitly to their usefulness to a business operating in a growing economy. Answers which do not are unlikely to gain more than L3 lower band.

One sided response i.e., those that only consider one concept or do not analyse the problems of at least one concept will not gain beyond L2.

AO3 Evaluation

- Consideration of the likely effectiveness of both measures in increasing total sales in a growing economy that assesses which is most likely to be effective. If there is no direct/implicit reference to a growing economy, **then L1 upper maximum.**
- Candidates may consider an alternative concept e.g., YED to assess whether sales would actually grow in these circumstances,
- A justified conclusion which is most likely to be effective.

Accept all valid responses.

A one-sided response cannot gain any marks for evaluation.

AO1 Knowledge and understanding and AO2 Analysis 8

AO3 Evaluation 4

17. AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content

Responses may include:

AO1 Knowledge and understanding and AO2 Analysis

- Analysis of the benefits of using PED for a smartphone producer e.g., for raising / decreasing the price to maximise revenue.
- Analysis of the limitations of the use of using PED e.g., the figures are only estimates and may change over time.
- Analysis of the benefits of using XED for a smartphone producer e.g., to determine whether it is a complement or a substitute for a product produced e.g., by a different business to enable it to react to competitor pricing decisions.

- Analysis of the limitations of using XED e.g., other factors may have a greater influence e.g., brand loyalty to a competitor.

If limitations of only one measure are analysed then L3 mid-point maximum.

If only one measure is analysed or no reference to smartphone producers then L2 maximum.

AO3 Evaluation

- Assessment of whether PED or XED is more useful to the producer.
- Need to use other sources of information in decision-making – e.g., YED.
- Justified conclusion.

Accept all valid responses.

A one-sided response cannot gain any marks for evaluation.

AO1 Knowledge and understanding and AO2 Analysis 8

AO3 Evaluation 4