A Q A

General Certificate of Education

Economics ECN1

Unit 1   Markets and Market Failure

Mark Scheme

2007 examination - January series

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

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AQA Advanced Subsidiary Economics

January 2007   **ECN1/1**

This component is an objective test for which the following list indicates the correct answers used in marking the candidates' responses.

KEY LIST

1.	A	9.	A
2.	A	10.	B
3.	B	11.	A
4.	B	12.	A
5.	D	13.	D
6.	B	14.	A
7.	B	15.	C
8.	C		

Advanced Subsidiary Economics

January 2007   **ECN1/2**

Mark Scheme

General Instructions

Marks awarded to candidates should be in accordance with the following mark scheme and examiners should be prepared to use the full range of marks available. The mark scheme for most questions is flexible, permitting the candidate to score full marks in a variety of ways. Where the candidate's response to a question is such that the mark scheme permits full marks to be awarded, full marks **MUST** be given. A perfect answer is not necessarily required for full marks. But conversely, if the candidate's answer does not deserve credit, then no marks should be given.

Occasionally, a candidate may respond to a question in a reasonable way, but the answer may not have been anticipated when the mark scheme was devised. In this situation, **OR WHENEVER YOU HAVE ANY DOUBT ABOUT THE INTERPRETATION OF THE MARK SCHEME**, you must in the first instance telephone your team leader to discuss how to proceed.

Two approaches have been used in the construction of the mark scheme for the data response questions:

(i)   **An 'issue' based approach.** The mark scheme for parts (a) and (b) of the data response questions adopts this approach. The mark scheme lists the marks that can be awarded for particular issues (and associated development) that the candidate might include in the answer. Marks awarded for development should take into account the Quality of Written Communication used by candidates as indicated on page 6 of this mark scheme.

(ii)   **A 'levels' approach.** This approach is used for marking part (c) of the questions. The mark scheme summarises the information required to answer the question, but without attaching marks to particular issues. Marks should be awarded according to whether the answer displays the skills indicated by the five Mark Band Descriptors or "Levels of Skill" included in the mark scheme. The Mark Band Descriptors are set out on page 5. When using a 'levels' mark scheme the marker **must** identify where a particular skill is being demonstrated. The **key** to be used to identify the skill is also shown on page 6. The level chosen should be the one which **best fits** the answer provided by the candidate. It is **not** intended that the answer should satisfy every statement in the level description.

APPLYING THE 'LEVELS' MARK SCHEME

Levels of Response Mark Band Descriptors

In part (c) of the data response questions approximately half the marks are available to award to candidates who demonstrate that they can 'evaluate economic arguments and evidence, and make informed judgements'. It is not necessary that the candidate identifies a wide range of issues. As indicated below, the Quality of Written Communication used should be taken into account when awarding the marks.

Level 1
Few, if any, relevant issues are recognised. Economic concepts and principles are not adequately understood or applied to the question. No satisfactory analysis or evaluation. A poorly organised response which generally fails to answer the question. Descriptions and explanations lack clarity. Spelling, punctuation and grammar may be poor. There is little use of economic terminology.
0 to 3 marks
Mid-Point 2 marks

Level 2
One or more relevant issues are recognised. An attempt is made to use basic economic concepts to answer the question but the candidate's explanation may become confused. There may be some attempt to present alternative points of view but any attempt at evaluation is superficial. The answer is likely to be poorly organised and is unlikely to have a clear structure. The candidate demonstrates some ability to spell commonly used words and to follow the standard conventions of punctuation and grammar. Some use of economic terminology is made but this is not always applied appropriately.
4 to 6 marks
Mid-Point 5 marks

Level 3
Two or more relevant issues are recognised. The candidate has made a reasonable attempt to apply economic concepts and ideas. A satisfactory understanding of some basic economic concepts and theories is demonstrated. The candidate will present alternative points of view and to evaluate the issues, arguments and/or data. There is some logic and coherence in the organisation of the answer. The candidate is generally able to spell commonly used words and usually follows the standard conventions of punctuation and grammar. Some descriptions and explanations are easy to understand, but the answer may not be expressed clearly throughout. There is some evidence of the correct use of relevant economic terminology.
7 to 10 marks
Mid-Point 9 marks

Level 4
Two or more relevant issues are identified. Good understanding of some basic economic concepts and models is demonstrated. The candidate is able to apply these concepts and models to help answer the question. An appreciation of alternative points of view is shown. Satisfactory use is made of evidence and/or theoretical analysis to evaluate the issues/arguments identified and to support conclusions. Spelling is generally accurate and the standard conventions of punctuation and grammar are usually followed. The answer is well organised. Descriptions and explanations are usually clearly expressed. Appropriate use is made of relevant economic terminology.
11 to 13 marks
Mid-Point 12 marks

Level 5
Three or more relevant issues are identified. Good understanding of basic economic concepts and models is demonstrated throughout. The candidate is able to apply these concepts and models to help answer the question. Clear understanding of alternative points of view is shown. Good use is made of evidence and/or theoretical analysis to evaluate the issues/arguments identified and to support conclusions. Spelling is generally accurate and the standard conventions of punctuation and grammar are usually followed. The answer is well organised. Descriptions and explanations are clearly expressed. Appropriate use is made of relevant economic terminology.
14 to 15 marks
Mid-Point 15 marks

THE KEY TO BE USED WHEN USING THE 'LEVELS' MARKING SCHEME

D   Where a particular economic term is correctly **DEFINED** in order to help the candidate to answer the question properly.

I   Where a relevant **ISSUE** is raised by the candidate.

K   Where the candidate demonstrates **KNOWLEDGE** of recent developments of features of the economy which help enhance the candidate's response to the question. This should also be used where the candidate quotes relevant examples.

Ap   Where the candidate demonstrates the ability to **APPLY** knowledge and **CRITICAL UNDERSTANDING** to problems and issues.

A   Where the candidate demonstrates the ability to **ANALYSE** the problem using appropriate economic ideas.

E   Where the candidate **EVALUATES** and makes judgements about the significance of various issues
        and arguments.

QUALITY OF WRITTEN COMMUNICATION

The Mark Band Descriptors, which are used for assessing part (c) of the questions, incorporate statements which relate to the Quality of Written Communication used by the candidates.

However, it is also important to assess Quality of Written Communication **whenever** candidates produce answers using continuous prose. When applying an issue based mark scheme, examiners must take into account the following when deciding how many marks to award for development:

  (i)   use of an appropriate form and style of writing to organise relevant information clearly and coherently;
  (ii)   use of specialist vocabulary, where appropriate;
  (iii)   legibility of handwriting;
  (iv)   accuracy of spelling, punctuation and grammar.

EITHER

1   **Total for this question: 25 marks**

> 1   (a) Using **Extract A**, compare the changes in the percentage of male and female adults
>   in Great Britain who smoked over the period shown.
>
>   *(4 marks)*

Award up to 2 marks each for each valid point made (one mark for identification and one mark for supporting reference(s) to the data). The valid points include:

- There was a more or less continuous fall in the proportion (percentage) of both males and females who smoke over the whole period;

- The proportionate fall was greater for males;

- For both males and females, there was a greater fall in the early years (pre 1994);

- Comparing the short periods of 'flattening out';

- Comparing the short periods of an increase in the proportion of males and females smoking;

- Noting that the discontinuity in the data affects the data series for males but not for females;

- For the two data series, a direct or positive relationship.

A maximum of **2 marks** if there is no use of statistics or if a candidate confines the comparison to just one indicator.

If the candidate simply trawls through the data, award a maximum of **2 marks**.

A maximum of **3 marks** may be awarded where there is evidence of an overview having been taken, even though parts of the answer give an impression of a trawl through the data.

MAXIMUM FOR PART (a) 4 MARKS

1 (b) With the use of a supply and demand diagram, explain how the tax increase levied by the Korean government in 2004 may have affected the market for cigarettes (**Extract B**, lines 17-21). *(6 marks)*
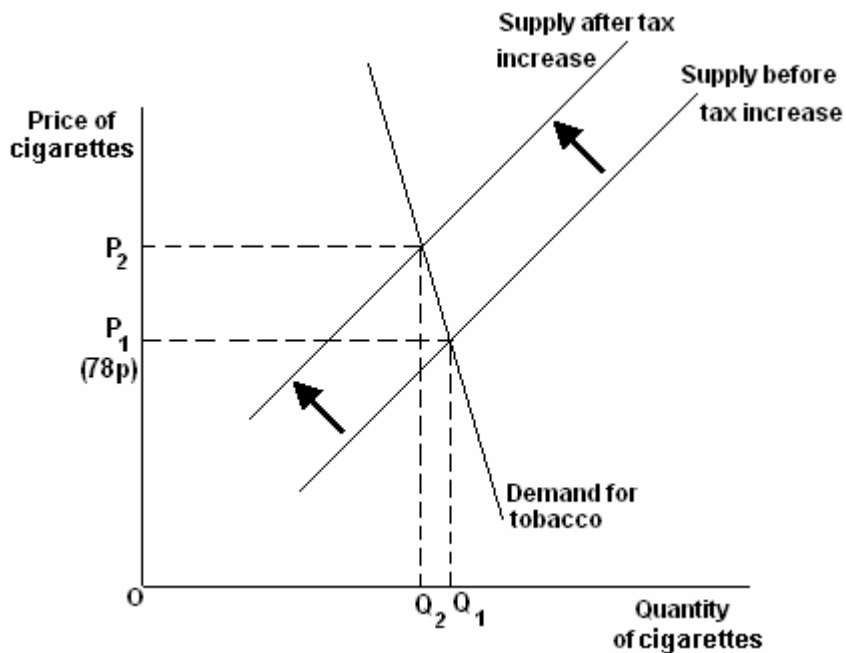
For the diagram, award 1 mark for each of the following:

- Drawing a supply and demand diagram, accurately labelled, showing the initial equilibrium price of cigarettes, and the quantity bought and sold (e.g. P_1 (or 78 pence) and Q_1);

- Drawing a new supply curve to the left of (or above) the original supply curve;

- Labelling excess demand at the initial equilibrium price after the shift of supply;

- Showing a new equilibrium price above the initial equilibrium price;

- Showing who bears the incidence of the tax.

Maximum of 4 marks for the diagram

For the written explanation, award 1 mark for each of the following:

- Explaining how the tax shifts the supply curve leftward;

- Explaining that, according to the data, the demand for tobacco is price inelastic;

- Calculating the price elasticity of demand for tobacco as approximately (-)0.25. (Allow a statistic between 0.24 and 0.26, with or without a minus sign, but do not award the mark if a + sign is included.)

- Explaining the adjustment to the new equilibrium

- Any other relevant point, e.g. the data only relates to the effect on male, but not female, smokers

Maximum of 4 marks for a written explanation

Maximum of 3 marks for a diagram with no written explanation, or for a written explanation without a relevant diagram

MAXIMUM FOR PART (b) 6 MARKS

> 1 (c) Using the data and your economic knowledge, evaluate the case **for** and **against** a government completely banning the sale and consumption of cigarettes. *(15 marks)*

The data in Extract B provides two prompts: (i) information about the effect of a tax increase on tobacco consumption in South Korea; and (ii) details of a proposed ban on buying and selling tobacco in South Korea. A candidate's own knowledge could include some analysis of tobacco as a demerit good, analysis of the effect of introducing a tax in the context of elasticity of demand, and discussion of how smokers may react to alternative policies to reduce/eliminate smoking. The case for banning the sale and consumption of tobacco products centres on the effects of consumption on smokers and passive smokers. The case against includes policy ineffectiveness, adverse unintended consequences, and loss of government revenue.

In this part of the question, candidates will need to demonstrate that they are able to evaluate issues and arguments to support a conclusion, if they are to be awarded **more than 7 marks**. The question is not specific to a particular country. Good answers may make the point that the effect of a ban could be different in different countries.

Candidates should not be awarded **above Level 3** if evaluation does not go beyond the superficial. However, within this constraint there is scope to reward more explicit evaluation, i.e. where there is some evidence of judgements having been made by candidates as to what are relevant/irrelevant issues.

To gain **Levels 4 or 5 (11 or more marks)**, there needs to be more explicit evaluation, perhaps along the lines suggested above, and clear evidence of critical/informed comment on issues raised, the ability to make judgements, and the ability to draw conclusions from the material presented in the answer.

Where there is no explicit reference to the data, award a maximum of **12 marks**.

The candidate could evaluate by discussing the implication(s) of the word *completely* in the question, for example by justifying an argument that a complete ban may trigger adverse unintended consequences, which might provide an example or examples of government failure. An evaluative answer could also consider the alternatives to a complete ban, and perhaps argue that policy should be based on a range of complementary measures.

The issues identified below are intended to provide an indication of some of the areas which might be discussed. Candidates can only be expected to consider a few of these issues in the time available.

Issues and areas for discussion include:

- Tobacco products as demerit goods;
- Why people wish to consume a demerit good such as tobacco;
- The significance of elasticity of demand;
- Effects of a ban on smokers and passive smokers;
- Why a ban may be ineffective;
- Unintended consequences;
- Alternative policies to a ban;
- Impact on producers;
- Alleged positive health benefits;
- Different effects in different countries.

Also give credit for:

- Relevant use of data and/or candidate's knowledge;

- Relevant use of diagrams;

- Relevant use of evidence;

- Overall assessment.

USE THE LEVELS MARK SCHEME ON PAGES 5 & 6

MAXIMUM FOR PART (c) 15 MARKS

OR

2   **Total for this question: 25 marks**

2 (a) Using **Extract C**, compare the changes in the quantity of ethanol produced in Brazil with the changes in the price of crude oil over the period shown.   *(4 marks)*

Award up to 2 marks each for each valid point made (one mark for identification and one mark for supporting reference(s) to the data). The valid points include:

- There was generally an inverse relationship between the quantity of ethanol produced and the price of crude oil;

- Ethanol production reached its peak in 2005 at the end of the twenty-five year period, whereas the price of crude oil peaked at the beginning of the period;

- The quantity of ethanol produced increased by just over 400% over the period, whereas the price of crude oil fell by about 25% over the period;

- Both data series fluctuated over the period;

- Fluctuations in ethanol production were greatest after about 1997/98 whereas fluctuations in the price of crude oil were greatest between about 1984 and 1991;

- The most rapid extended changes in both data series were early in the data period;

- Both data series were increasing from about 2000 onward.

A maximum of **2 marks** if there is no use of statistics or if a candidate confines the comparison to just one indicator.

If the candidate simply trawls through the data, award a maximum of **2 marks**.

A maximum of **3 marks** may be awarded where there is evidence of an overview having been taken, even though parts of the answer give an impression of a trawl through the data.

MAXIMUM FOR PART (a) 4 MARKS

2 (b) **Extract D** (lines 7-8) states that 'the lower relative price of ethanol-based fuel encourages motorists to buy cars which burn the fuel'.

Explain how the lower price of ethanol-based fuel, relative to the price of petrol, may affect incentives **and** resource allocation in the Brazilian economy. *(6 marks)*

This question is testing explanation of, in the context of the relative prices of ethanol and petroleum-based fuels in Brazil, the part of specification section 10.2 'How Markets and Prices Allocate Resources'. 'Candidates should understand the rationing, incentive and signalling functions of prices in allocating resources and co-ordinating the decisions of buyers and sellers in a market economy.' The question can also be answered by explaining the substitute-demand relationship.

For candidates who:

explain how the lower price of ethanol-based fuel illustrates the:

- signalling function of prices

- incentive function of prices

- rationing or allocative function of prices

in each case, for a basic statement of the function: **1 mark**
for relevant development or explanation related to incentives and/or resource allocation:
up to 2 further marks

state that ethanol and petroleum-based fuels are substitutes: **1 mark**

explain how the substitute relationship affects resource allocation: **up to 3 further marks**

use a relevant diagram or diagrams to illustrate the effect of the substitute relationship: **up to 2 marks**

make any other relevant point about incentives or resource allocation: **up to 2 marks per point**

MAXIMUM FOR PART (b) 6 MARKS

2 (c) Using the data and your economic knowledge, assess the case **for** and **against** government intervention to encourage car manufacturers to build cars that use fuels other than petrol. *(15 marks)*

The prompts provided by Extracts D and E are (i) information about the lower price of bio-fuels such as ethanol-based fuel; (ii) the effect on green-house gas emissions of (a) processing sugar etc. into fuel and (b) driving cars on ethanol-based fuel; (iii) reductions in soil fertility; (iv) effects resulting from the use of human sewage to restore soil fertility; and (v) information about the cost of providing suitable infrastructure etc. A candidate's own knowledge could include knowledge of alternative fuels that are not mentioned in the Extracts e.g. hydrogen and electric powered cars; and knowledge of the difference between private, external and social costs and benefits.

In this part of the question, candidates will need to demonstrate that they are able to evaluate issues and arguments to support a conclusion, if they are to be awarded **more than 7 marks**. This part of the question is not specific to a particular country. Candidates may make the point that the case for and against could be different in different countries, but also that other countries receive the externalities generated by economic activity in a particular country.

The candidate could evaluate by considering how the impact of private and external costs and benefits can justify government intervention. An evaluative answer could also consider practicality of alternative fuels, the implications of long-term versus short-term costs and benefits, and the possibility that government intervention might lead to government failure.

Candidates should not be awarded **above Level 3** if evaluation does not go beyond the superficial. However, within this constraint there is scope to reward more explicit evaluation, i.e. where there is some evidence of judgements having been made by candidates as to what are relevant/irrelevant issues.

To gain **Levels 4 or 5 (11 or more marks)**, there needs to be more explicit evaluation, perhaps along the lines suggested above, and clear evidence of critical/informed comment on issues raised, the ability to make judgements, and the ability to draw conclusions from the material presented in the answer.

Where there is no explicit reference to the data, award a maximum of **12 marks**.

The issues identified below are intended to provide an indication of some of the areas which might be discussed. Candidates can only be expected to consider a few of these issues in the time available.

Issues and areas for discussion include:

- Different types of 'encouragement' carry different implications;

- The effect of encouragement within a country on car manufacturing in other countries;

- The distinction between private and external costs and benefits;

- The distinction between short-term and long-term costs and benefits;

- The need to correct market failure;

- Maximising social benefit versus maximising private benefit;

- The possibility of government failure and unintended consequences;

- The impact of demand conditions as well as supply conditions;

- Should businesses or governments decide how and what is produced.

Also give credit for:

- Relevant use of candidate's knowledge;

- Relevant use of diagrams;

- Relevant use of evidence;

- Overall assessment.

USE THE LEVELS MARK SCHEME ON PAGES 5 & 6

MAXIMUM FOR PART (c) 15 MARKS