



General Certificate of Education

Economics 5141

ECNI Markets and Market Failure

Mark Scheme

2006 examination - June 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.

AQA Advanced Subsidiary Economics

June 2006

ECN1/1

The following list indicates the correct answers used in marking the candidates' responses.

KEY LIST

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

Advanced Subsidiary Economics**June 2006****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 5 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 4. 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 5. 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. There will be some attempt to 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

- (a) Using **Extract A**, compare the price of crude oil and the number of active drilling rigs in the USA over the period from 1974 to 1997. *(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:

- Over the whole period, the two data series were positively correlated
- Between 1974 and the early 1980s, both increased, with the number of active drilling rigs trebling and the price of oil increasing from about \$7.50 to about \$35 a barrel
- Between 1983 and 1986 both decreased, with the number of active drilling rigs falling from 4,500 to 750 a year and the oil price falling from about \$27 to \$10 a barrel
- From 1986 onward, with the exception of 1990 when the oil price increased and then sharply fell while the number of active drilling rigs remained stable, both were relatively stable
- a relatively low oil price is accompanied by the low number of active drilling rigs
- identification of possible lags in the two data series

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.

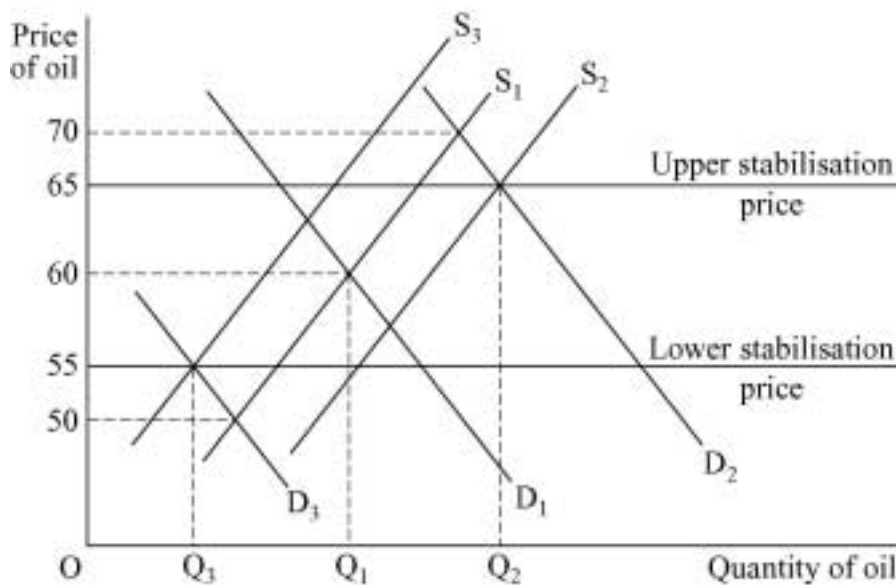
MAXIMUM FOR PART (a) 4 MARKS

- 1 (b) Using at least one demand and supply diagram and the information in **Extract B**, explain how Saudi Arabia might try to stabilise the world price of oil between \$55 and \$65 a barrel. (6 marks)

Diagram and explanation:

Extract B states that Saudi Arabia has tried to stabilise the price of oil by increasing or decreasing the supply of oil. This might involve Saudi control over its own oil supplies, or the imposition or relaxation of production quotas imposed on all OPEC members.

Candidates may validly use one of a number of supply and demand diagrams. The diagram below shows Saudi Arabia implementing both an Upper Stabilisation Price (at \$65) and a Lower Stabilisation Price (at \$55). Candidates can earn **3 marks** for accurately illustrating **one** of these, and a maximum of **4 marks** for the second method of price stabilisation.



Explanation of the above diagram:

- (i) **At the Upper Stabilisation Price:** Initially the demand and supply curves for oil are D₁ and S₁, with equilibrium price and quantity at \$60 and Q₁. The world demand curve for oil shifts rightward to D₂. In the absence of intervention, the price rises above \$65 to \$70. To prevent the price rising above \$65, Saudi Arabia increases supply, shifting the supply curve to S₂. Q₂ is now bought and sold.
- (ii) **At the Lower Stabilisation Price:** Initially the demand and supply curves for oil are D₁ and S₁, with equilibrium price and quantity at \$60 and Q₁. The world demand curve for oil shifts leftward to D₃. In the absence of intervention, the price falls below \$55 to \$50. To prevent the price falling below \$55, Saudi Arabia decreases supply, shifting the supply curve to S₃. Q₃ is now bought and sold.

For candidates who, for the diagram:

draw a properly labelled S & D diagram to show an initial equilibrium in the market for oil: **1 mark**

illustrate a relevant shift of the demand curve: **1 mark**

show and label the new equilibrium price in the absence of intervention: **1 mark**

show the relevant stabilisation price imposed by OPEC or Saudi Arabia: **1 mark**

show the supply curve shifting to prevent the price falling below or rising above the relevant stabilisation price: **1 mark for each effect**

label any other relevant aspect of the diagram, eg excess demand or supply at an intervention price, following the shift of the demand curve: **1 mark**

Maximum of 3 marks for a diagram if only an upper or a lower stabilisation price is illustrated

Maximum of 3 marks for diagrams if there is no written explanation

Maximum of 4 marks for a diagram or diagrams, provided a written explanation is included

For candidates who, for the written explanation:

explain how, by increasing the supply of crude oil to match a rightward shift of demand, the price can be prevented from rising above a price ceiling of \$65 a barrel: **up to 3 marks**

explain how, by reducing the supply of crude oil to match a leftward shift of demand, the price can be prevented from falling below a price floor of \$55 a barrel: **up to 3 marks**

Maximum of 3 marks for a written explanation if only an upper or a lower stabilisation price is explained

Maximum of 3 marks for the written explanation if there is no diagram

Maximum of 4 marks for the written explanation, provided a relevant diagram is included

Maximum of 5 marks if overall the answer is restricted to one form of intervention

MAXIMUM FOR PART (b) 6 MARKS

- 1 (c) Do you agree that the price of oil should be determined by free market forces rather than through the intervention of governments or organisations such as OPEC? Justify your answer. (15 marks)

Extracts A and B clearly illustrate and indicate how free market forces can lead to wild swings in the price of crude oil. However, Extract B also shows how market intervention by Saudi Arabia or OPEC has been unsuccessful. Good answers might make reference to the signalling, incentive and allocative functions of prices, and to issues of resource depletion and market failure.

To achieve **more than 7 marks**, candidates will need to show that they can use the data provided to make plausible judgements about the issues posed by the question. To achieve **9 marks (mid-Level 3) or more**, answers must clearly address the case for and against. An example of evaluation is the argument that, while intervention may succeed in holding the price in a ‘comfort zone’, it may have adverse long-term effects because the price of oil may fail to create incentives to economise, to explore for and/or develop new oil sources, and to research and develop alternative sources of energy.

The question is worded to allow a candidate to earn full marks by considering intervention in a market by **either** government(s) **or** by an organisation such as OPEC. Many candidates will discuss both, but discussion of both is not essential.

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:

- Resource depletion issues;
- Resource degradation issues, eg the effect of carbon pollution;
- Short-term versus long-term issues;
- Market failure considerations, especially those relating to negative externalities;
- Does government intervention or encouragement improve on the market, eg by reducing price fluctuations?
- Resource allocation and efficiency issues;
- Government failure issues;
- Government intervention versus intervention by organisations such as OPEC;
- The world distribution of income.

Also give credit for:

- Relevant use of data and/or candidate’s knowledge
- Relevant use diagrams
- Relevant use of evidence
- Overall assessment

Do not award marks for simply copying out the data and adding nothing in the way of analysis and evaluation.

USE THE LEVELS MARK SCHEME ON PAGES 4 & 5

MAXIMUM FOR PART (c) 15 MARKS

OR

2

Total for this question: 25 marks

- 2 (a) Using **Extract C**, compare changes in the level of smoke pollution with the number of deaths per day in London in the period 1st-15th December 1952. (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:

- a positive correlation between air pollution and the number of deaths per day, i.e both rose and fell at the same time
- the rate of change of pollution and deaths were both relatively stable between the 1st and 3rd of December
- the rate of change of pollution and deaths were both relatively stable between the 10th and the 15th of December
- between the 4th and the 10th of December, smoke pollution rose and fell at a greater percentage rate than deaths.

Do not reward a statement claiming that deaths were at a higher level than pollution. Because of the different scales and units of measurement, the two data series are not comparable in this way.

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

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- 2 (b) ‘Unless governments intervene, and in this case replace the market, there will be too much pollution’ (**Extract E**, lines 10-11).

Explain **two** ways in which a government can intervene to bring about cleaner air.

(6 marks)

Methods of intervention include pollution taxes, use of the law and/or forms of regulation such as banning polluting activities, maximum emission limits and forcing polluters to install clean technology, and creating a market in permits to pollute. For example, a pollution tax may bring about cleaner air, first, by creating an incentive for the polluter to pollute less so as to avoid the tax, and second, by reducing the demand for the product, assuming that the polluter raises the price to cover some or all of the pollution tax. Explaining how a method might operate can earn all the available marks, though good answers might explain advantages and disadvantages, Good answers might also note that a method of intervention might make air cleaner, while failing to make air completely clean.

For candidates who:

identify a method of making air cleaner:

1 mark

explain the method:

up to 3 further marks

MAXIMUM FOR PART (b) 6 MARKS

2 (c) Using the data and your economic knowledge, evaluate the case for a government rather than markets providing public goods. (15 marks)

To achieve **more than 7 marks**, candidates will need to make plausible judgments about the issues posed by the question. An example of judgment/evaluation is arguing that because of free-riders and missing markets, governments (or possible charities) should provide pure public goods, but there is a case for markets providing non-pure (or quasi) public goods. To achieve **9 marks (mid-Level 3) or more**, answers must address **both** government **and** market provision. To achieve **12 marks or more**, candidates must make some reference to the data in their answers.

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:

- The meaning of a public good;
- Pure and non-pure public goods;
- The distinction between a public good and a private good;
- Why markets may fail to provide public goods;
- The problem of 'missing markets';
- Breakdown of the functions of prices;
- The implications of non-excludability;
- The implications of non-rivalrous consumption (non-rivalry, or non-diminishability);
- Relevant application of efficiency concepts;
- Relevant application of welfare concepts;
- Government failure arguments, eg the possibility of over-provision;
- The case for market provision.

Also give credit for:

- Relevant use of data and/or candidate's knowledge
- Relevant use of diagrams
- Relevant use of evidence
- Overall assessment

Do not award marks for simply copying out the data and adding nothing in the way of analysis and evaluation.

USE THE LEVELS MARK SCHEME ON PAGES 4 & 5

MAXIMUM FOR PART (c) 15 MARKS